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UNIVERSITY OF ALBERTA

EFFECTS OF SUPERVISOR SELF-EXPLORATION ON SUPERVISOR AND SUPERVISEE CONFERENCING BEHAVIOR

BY

(C)

LESLIE WELLMAN

A THESIS PROPOSAL

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE

IN

SPEECH-LANGUAGE PATHOLOGY

DEPARTMENT OF SPEECH PATHOLOGY AND AUDIOLOGY

EDMONTON, ALBERTA

SPRING, 1991

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FACULTY OF GRADUATE STUDIES AND RESEARCH

THE UNDERSIGNED CERTIFY THAT THEY HAVE READ, AND RECOMMEND TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH FOR ACCEPTANCE, A THESIS ENTITLED Effects Of Supervisor Self-Exploration on Supervisor and Supervisee Conferencing Behavior

SUBMITTED BY Leslie Wellman
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF Master of Science
IN SPEECH-LANGUAGE PATHOLOGY.

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Date: March 26, 1991

ABSTRACT

The primary purpose of this study was to investigate the effects of supervisor self-exploration on supervisor and supervisee conferencing behaviors. The secondary purpose was to investigate the relationship between supervisor and supervisee conferencing behaviors. A two factor experimental mixed design with repeated measures on one variable was selected to investigate the effects of the independent variables (Supervisor Self-exploration and Time) on the dependent variables for supervisor trust behaviors (empathic understanding, respect, facilitative genuineness, concreteness), supervisor productive questioning behaviors and supervisee conferencing behaviors (analytic/evaluative, diagnostic/prescriptive, complex/simple). Five experimental group and six control group supervisor-supervisee pairs participated. Supervisory conferences were audio recorded for seven weeks. Supervisors in the experimental group engaged in self-exploration activities for four weeks. Five minute samples from the approximate middle of supervisory conferences two, four, and six were used as the data source. Nonparametric and parametric data analyses were used to measure the effects of supervisor self-exploration on supervisor and supervisee conferencing behaviors and the relationship between supervisor and supervisee conferencing behaviors. Significant group differences were found for supervisors' levels of concreteness and percentages of productive questions and supervisees' diagnostic/prescriptive and complex/simple conferencing behaviors. Significant correlations were found between supervisors' levels of facilitative genuineness and concreteness and supervisees' complex/ simple conferencing behaviors and between supervisors' percentages of productive questions and supervisees' diagnostic/prescriptive and complex/simple conferencing behaviors. The results of this study would suggest that supervisor self-exploration may effect change in supervisor behavior and this change in turn may lead to change in supervisee behavior. The results of this study demonstrate the

benefit of supervisor self-exploration as a valuable supervisory activity to enhance supervisory behaviors.

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CHAPTER 1
INTRODUCTION

Clinical supervison in speech-language pathology has been defined as "a process that consists of a variety of patterns of behavior, the appropriateness of which depends upon the needs, competencies, expectations, and philosophies of the supervisor and the supervisee and the specifics of the situation" (Anderson, 1988, p. 12).

In 1984 ASHA's legislative council adopted a position paper on tasks and competencies required for effective supervision (American Speech-Language-Hearing Association, 1985). The first task identified in the position paper was that of establishing and maintaining an effective working relationship with the supervisee (American Speech-Language-Hearing Association, 1985). Nine competencies were associated with that task. Among the competencies identified were the facilitation of supervisee independent thinking and problem solving and the provision of a professional and supportive relationship. The competencies described throughout the position paper clearly followed a collaborative model of supervision, which has been identified in the education (Cogan, 1973; Goldhammer,1969; Goldhammer, Anderson & Krajewski, 1980) and speech-language pathology (Anderson, 1988) professions as the most effective model for supervision.

The goal of the collaborative model of supervision is the professional growth and development of the supervisee and supervisor (Anderson, 1988). The supervisee and supervisor share the responsibility for goal setting, problem-solving, analysis of behaviors, collection of data and participation in supervisory conferences (Anderson, 1988; Cogan, 1973).

Research on the interactional patterns between supervisors and supervisees in the profession of speech-language pathology has shown that the collaborative model of supervision is not being implemented (Dowling, 1987b; Smith & Anderson, 1982). Speech-language pathology supervisors adopt a directive style of supervision which is more representative of a superior-subordinate

relationship than a collaborative relationship (Culatta & Seltzer, 1976; Nilsen, 1983; Roberts & Smith, 1982). Speech-language pathology supervisors tend not to modify their style of supervision over time or in response to the changing needs of supervisees (Culatta & Seltzer. 1976; Roberts & Smith, 1982).

Only a few studies have investigated methods which effectively created change in supervisors' behaviors. Those studies suggested that supervisors tended to change their conferencing behaviors in response to directive feedback (Cimorell-Strong & Ensley, 1982; Hagler, 1986) and not in response to self-assessment (Culatta & Seltzer, 1977). More recently, a few single subject studies demonstrated that supervisors changed their conferencing behaviors when active in the process of creating change (Brasseur, 1987; Strike, 1989) and when provided with instruction (Strike, 1989).

The concept of self-assessment or self-exploration has been identified as important to the professional growth of supervisees in order to develop autonomy (Anderson, 1988) and to the professional growth of supervisors in order to remain a competent professional (Crago, 1987). To date, the only research which has investigated the effects of self-assessment or self-exploration is the study by Culatta and Seltzer (1977). Culatta and Seltzer (1977) found that supervisors who actively charted their supervisory behaviors did not change their behaviors over time. Culatta and Seltzer (1977) attributed the lack of change in supervisors' behaviors to a lack of feedback. Recent research would suggest that knowledge about supervisory behaviors (Thorlacius cited in Brasseur, 1987) and instruction in the use of supervisory behaviors (Strike, 1988) created a change in supervisors' conferencing behaviors. Thus it may be that the supervisors in the Culatta and Seltzer (1977) study did not change their supervisory behaviors because they were unaware of supervisory behaviors that might be facilitative and non-facilitative.

There is a need for more experimental research investigating the effects of supervisor self-exploration on supervisor conferencing behaviors. Such research should include supervisor

knowledge of supervisory behaviors that enhance interactions. Should such research demonstrate that supervisor self-exploration leads to improved supervisor performance, then it would lend support to the concept of self-exploration as a valuable supervisory activity. If an important prerequisite for accountable supervision is change in supervisee behavior (Holahan & Galassi, 1986), and supervisor self-exploration leads to change in supervisee behavior, then self-exploration may be a viable method for demonstrating accountable supervision.

CHAPTER 2
REVIEW OF THE LITERATURE

Stones (1984) likened supervision, the act of directing or overseeing so as to maintain order, to "super-vision", an act encompassing all forms of vision. "Super-vision" requires acute eyesight, to see what is happening; insight, to understand the importance of what is happening; foresight, to see what could be happening; hindsight, to see what should have happened and did not; and second sight, to know how to get what should have happened to happen next time.

The literature suggests that the goal of clinical supervision, supervision "up close" (Goldhammer, 1969), is to produce a clinically independent, competent, and self-supervising clinician (Dowling, 1983; Hatfield, 1973). Boyd (1978) described the goal of supervision as the promotion of personal and professional development, competencies, and accountability. The supervisee's development is based on an academic foundation that is cultivated through the supervisory process in a clinical environment.

The American Speech-Language-Hearing Association (1978) differentiated the clinical and supervisory processes according to who is participating and acknowledged that the goal of each process is different. The clinical process encompasses the interaction between the clinician and the client, while the supervisory process encompasses the interaction between the supervisee and the supervisor. The student must assume the roles of both clinician and supervisee.

Clinical supervisors foster growth towards supervisee autonomy through the facilitation of supervisee skills acquisition, supervisee awareness of self and client, and supervisee knowledge (Galassi & Trent, 1987; Stoltenberg & Delworth, 1987). Facilitation of supervisee growth involves several components or phases, occurs within the clinical process as well as the supervisory process, and appears to progress along a continuum. The components of supervision include planning, observation, analysis, and integration, generally fostered during the supervisory conference (Anderson,

1988; Cogan, 1973; Goldhammer, 1969). The components of planning, observation, analysis, and integration (Anderson, 1988) are applied to the clinical process to develop clinician awareness of self and client and to develop the technical skills of the clinician. The same components are applied to the supervisory process to facilitate the professional and personal growth of the supervisee and the supervisor (Anderson, 1988). Supervisees may function at any point along the continuum within each practicum depending upon their prior level of academic knowledge and clinical experience (Anderson, 1988). Responsibility for clinical and professional growth is shared between the supervisee and supervisor (Anderson, 1988; Cogan, 1973; Goldhammer, 1969).

In summary to achieve autonomous, clinically competent supervisees, supervisors must expand upon the supervisee's academic foundation through the clinical and supervisory processes to develop supervisee clinical skills and supervisee awareness of self and client (Galassi & Trent, 1987; Stoltenberg & Delworth, 1987). The models of supervision (Anderson, 1988; Stoltenberg & Delworth, 1987) propose that supervisee growth is developmental and best facilitated through a collaborative supervisor-supervisee relationship.

Supervision Models

The speech-language pathology profession has adopted principles from the developmental and collaborative models of supervision. These models have been described in the counseling (Stoltenberg, 1981; Stoltenberg & Delworth, 1987), education (Cogan, 1973; Goldhammer, 1969) and speech-language pathology (Anderson, 1988) literature.

The Developmental Model

The counseling literature has referred to the supervision continuum as the developmental model (Cross & Brown, 1983; Galassi & Trent, 1987; Stoltenberg, 1981; Stoltenberg & Delworth, 1987). In this model supervisees initially exhibit behaviors of insecurity and dependency but progress to behaviors of less dependency and more autonomy as they acquire confidence and skills, and eventually emerge as independent practioners (Galassi & Trent,

1987; Stoltenberg & Delworth, 1987). Needs of the supervisee change with each developmental level. Beginning supervisees require more structure with more emphasis on skill acquisition. More experienced supervisees require less structure, less instruction in skill acquisition, and more facilitation of personal growth (Cross & Brown, 1983; Galassi & Trent, 1987; Heppner & Roehlke, 1984). Supervisees at all developmental levels desire a supportive working relationship with the supervisor (Stoltenberg, 1981).

The developmental model has been described as the supervisory continuum in the speech-language pathology literature (Anderson, 1988; Brasseur, 1989). Anderson (1988) suggested that beginning supervisees function within the evaluation-feedback stage for which a more directive style of supervision is appropriate. As supervisees progress they move into a transitional stage wherein a collaborative style of supervision becomes appropriate. Supervisees emerge as self-supervising clinicians who benefit from a consultative supervisory style. Anderson (1988) emphasized that the supervisory continuum is not time bound and that supervisees may function anywhere along the continuum at any point in their careers depending upon their knowledge and clinical experience.

More recently the developmental model has been applied on a theoretical level to supervisors (Stoltenberg & Delworth, 1987). Anxious beginning supervisors may play the "expert" role in their efforts to do the "right thing". Beginning supervisors tend to use a directive supervisory style and are highly structured to resolve their own ambivalence and confusion. Supervisors with slightly more experience demonstrate a short interim of confusion, internal conflict, and fluctuating motivation for supervision as they begin to recognize the complexity of their role. If the rewards for supervision are minimal, then these supervisors may withdraw from supervision. The more experienced supervisors become more motivated to do well in their role as supervisor and demonstrate an interest in self-improvement.

The Collaborative Model

During the course of supervision a supervisor may adopt many roles. Cogan (1973) cautioned that supervisors create undesirable relationships with supervisees when supervisors adopt the role of the teacher, counselor, evaluator, or helper. However, when supervisors adopt a colleagual or collaborative role, a partnership is formed with the supervisee. The collaborative style of supervision has been defined as " a dynamic, problem-solving process wherein supervisor and supervisee work together to achieve optimum service for clients as well as the professional growth and development of both participants" (Anderson, 1988, p. 57).

In the collaborative model of supervision there is mutual supervisor-supervisee sharing in goal setting for clinical change, problem-solving, analysis of behaviors, collection of data, and participation in the supervisory conference (Anderson, 1988; Cogan, 1973). Supervisee growth is facilitated through interaction between the supervisor and supervisee often within the context of the supervisory conference.

Supervisors and supervisees exhibit a variety of interactional patterns within supervisory conferences (Blumberg, 1968, 1974; Blumberg & Amidon, 1965; Culatta & Seltzer, 1976; Nilsen, 1983; Smith & Anderson, 1982). A direct supervisory style is characterized by a supervisor who tells, criticizes, gives opinions, gives suggestions (Blumberg, 1974), summarizes, asks few questions, does most of the talking (Culatta & Seltzer, 1976; 1977), and focuses the discussion on therapy issues such as methods and materials (Smith & Anderson, 1982) not personal or relationship issues (Pickering, 1984; Smith & Anderson, 1982). The supervisee remains passive, does less talking, provides factual information, and asks few questions (Culatta & Seltzer, 1976). The indirect supervisory style is characterized by a supervisor who listens, asks questions, reflects ideas and feelings, and talks less (Blumberg, 1974; Smith & Anderson, 1982). The supervisee participates actively by asking questions and giving suggestions or opinions (Smith & Anderson, 1982). The direct/indirect style is characterized by a supervisor who uses a combination of telling,

criticizing, listening and asking. Direct/indirect or indirect supervisory styles are prominent in the collaborative model (Smith & Anderson, 1982; Dowling, 1987a). Brasseur and Anderson (1983) found that direct supervisory styles were more obvious than indirect to supervisors and supervisees. Supervisees tended to perceive direct supervisor behaviors as indirect (Nilsen, 1983) particularly when direct and indirect behaviors were present in similar proportions (Brasseur & Anderson, 1983).

Glickman (1985) proposed that direct, nondirect and collaborative supervisory behaviors stem from different underlying educational philosophies and that each style may be appropriate under certain conditions. The directive style of supervision stems from an essentialism educational philosophy wherein the supervisor is viewed as the expert on instructional methods and thus has control over the supervisee. Though issues such as power and authority may arise with directive behaviors, they need not if the supervisor is honest and open with the supervisee and lets the supervisee know that direction will improve technical skills. Nondirective behaviors stem from the existentialist educational philosphy wherein the underlying belief is that learning is a private experience and learners have the capacity to discover their own solutions. Collaborative behaviors stem from an experimentalist educational philosphy wherein there is a belief in rational scientific thinking, and teaching is viewed as primarily a problem solving, hypothesis forming, experimentation process. Although the supervisor guides the process, the supervisor and supervisee are equal partners in the process.

Anderson (1988) also acknowledged the need for different supervisory styles depending upon the level of the supervisee in the supervision continuum. Initially, supervisors may need to adopt a directive style of interaction, particulary if the supervisee is in the evaluation-feedback stage of the supervision continuum. Anderson (1988) cautioned that supervisors need to adopt a more indirect or direct/indirect supervisory style as quickly as possible to facilitate their supervisees' active participation in the learning process.

Although Anderson (1988) identified the collaborative model of supervision as the preferred model for the speech-language pathology profession, the research in speech-language pathology supervision shows that this model is not being implemented. Supervisors adopt a directive style of supervision (Anderson, 1988; Culatta & Seltzer, 1976; Roberts & Smith, 1982), and they maintain this style of supervision despite the changing needs of the supervisee (Culatta & Seltzer, 1977; Roberts & Smith, 1982). Culatta and Seltzer (1977) demonstrated that even when supervisors charted the content and sequence of their supervisory conferences, they did not change their style of interaction. Culatta and Seltzer (1977) attributed the results to a lack of feedback. Cimorrell-Strong and Ensley (1982) demonstrated that supervisee written feedback led to change in supervisor use of positive evaluations and supervisee use of questions. Hagler (1986) demonstrated that direct feedback facilitated change in supervisor talk time. More recent single-subject and experimental multiple baseline studies have demonstrated that supervisors can change their indirect conferencing (Brasseur, 1987) and questioning (Strike, 1989) behaviors in response to: (a) active participation in the process of creating change (Brasseur, 1987), (b) knowledge about the supervisory process (Brasseur, 1989), and (c) instruction and practise in the use of new skills (Brasseur, 1989; Strike, 1989).

In summary, the models of supervision identify supervisee growth as a continuum of learning best facilitated through a collaborative supervisor-supervisee relationship. The collaborative relationship is one of mutual supervisor and supervisee sharing in planning for and participating in the learning process. Though the collaborative model of supervision is recommended, it is not being implemented in the speech-language pathology profession (Roberts & Smith, 1982, Smith & Anderson, 1982).

Supervision Goals

Costa and Garmston (1989) proposed that a collaborative supervisory interaction could be established through a "cognitive coaching" approach to supervision. The "cognitive-coaching" approach to supervision (Costa & Garmston, 1989) is appropriate for

any level of supervisee development and recognizes three goals: (1) to create and manage a trust relationship with the supervisee, (2) to facilitate supervisee learning, and (3) to develop supervisee autonomy

Trust Relationship

A trust relationship is evidenced through expression of honest feeling, justification for value judgments, listening behaviors, focusing on mutual concerns, provision of alternative solutions, clarification, and nonverbal behaviors such as eye contact and open body posture (Costa & Garmston, 1989).

Trust behaviors, which also have been described as facilitative behaviors (Rogers, 1968), have been positively correlated with supervisee ability to self-explore (McCrea, 1980), supervisee perception of self-esteem (Caracciolo, Morrison, & Rigrodsky, 1980), supervisee clinical effectiveness (Ghitter, 1987), supervisee perception of satisfaction (Blumberg & Amidon, 1965; Kaplan, 1983), and supervisee perception of supervisor effectiveness (Heppner & Roehlke, 1984; Oratio, 1977; Oratio, Sugarman, & Prass, 1981). Thus, to maximize the potential for supervisee growth, it would seem appropriate to develop a facilitative relationship which leads to feelings of mutual trust between a supervisor and a supervisee.

Theories of a trust relationship. The Rogerian principles of empathy, unconditional positive regard, and congruence are often cited as basic to a facilitative or trust relationship (Ghitter, 1987) and necessary for the growth of interpersonal relationships (Rogers, 1968). Supervisees at all developmental levels wish to experience an empathic, supportive relationship with the supervisor (Leddick & Dye, 1987; McCready, Shapiro, & Kennedy, 1987) and perceive the supervisor as more effective, if a supportive relationship exists (Heppner & Roehlke, 1984). Supervisees become more flexible, less defensive, and more accurate in their awareness of self and experiences when supervisors offer the basic facilitative conditions (Dussault, 1970). Supervisees, like most adult learners, tend to develop feelings of trust with individuals who are warm, accepting, caring, supportive, encouraging, open, spontaneous and authentic; who are willing to spend time with the learner and are confident of

the learner's ability to make appropriate plans; and who listen, accept, respond, and understand but do not control, demand, manipulate or persuade (Knowles, 1973).

Trust and clinical supervision. The need to develop and maintain an effective working relationship has been identified frequently in the literature (Anderson, 1988; American Speech-Language-Hearing Association, 1985; Henry & Beasley, 1979; Miner, 1967). An effective working relationship facilitates supervisee thinking and problem solving within a professional and supportive environment (American Speech-Language-Hearing Association, 1985). A supportive environment must not only exist, but must be perceived as such by the supervisee (Rogers, 1968). Without a supportive environment, supervisor effectiveness is limited (Oratio et al., 1981). Most frequently the "challenge" of creating a positive interpersonal relationship occurs within the context of the supervisory conference (Henry & Beasley, 1979).

The effective supervisor must employ a combination of behaviors to facilitate the development of the supervisee. The indirect supervisory behaviors that Blumberg and Amidon (1965) described as listening, reflecting, and asking correspond to the facilitative techniques of "attending" (Ivey, Ivey, & Simek-Downing, 1987). The microskills which represent attending include the use of questions, encouragers, reflections of feeling and meaning, paraphrases, and summarizations. The direct/indirect supervisory behaviors described by Blumberg & Amidon (1965) include attending behaviors and some degree of telling and criticizing. The more directive behaviors correspond to the techniques described in the counseling literature as influencing skills (Ivey et al., 1987) and facilitate a change in behavior. Evaluation, criticism and controlling supervisory behaviors tend to increase supervisee defensiveness and reduce the levels of factilitative or trust conditions (Ward & Antwine, 1984). Although one of the responsibilities of a supervisor, evaluation should be separate from the supervisory conference (Costa & Garmston, 1989; Goldstein, 1982; Hunt, 1980).

Measurement of a trust relationship. McCrea (1980) provided speech language pathology supervisors with a method for evaluating

facilitative or trust conditions using the dialogue of the supervisory conference as the data source. McCrea (1980) adapted Gazda's (1974) scales for measuring supervisor empathic understanding, respect, facilitative genuineness and concreteness and supervisee self-exploration. Empathic understanding is the ability of the supervisor to appreciate or to be sensitive to the feelings of the supervisee. Respect, which corresponds to the principle of unconditional positive regard, involves acceptance of the supervisee. Facilitative genuineness, supervisory behaviors of openness, honesty, and authenticity, correspond to the Rogerian principle of congruence. Concreteness, which complements empathy, refers to the level of specificity. Supervisee self-exploration is the supervisee's ability to be objective about behavior and its' consequences. Behaviors are rated on a seven point scale. Casey (1980) validated the use of McCrea's Adapted Scales (Anderson, 1988) for three of the five scales for five minute segments taken from the beginning and end and two random two and one-half minute segments from the middle of the supervisory conference. Casey (1980) and McCrae (1980) found that the infrequent occurence of supervisor empathic understanding and supervisee self-exploration invalidated the use of these scales.

The literature on clinical supervision suggests that supervisors tend to offer low levels of facilitative or trust conditions (McCrea, 1980; Pickering, 1984) and, in fact, tend to be more empathic with their clients than with their supervisees (Leddick & Bernard, 1980).

In summary, trust relationships are evidenced through facilitative verbal and non verbal behaviors. The creation and management of a trust relationship is a goal for supervision (Costa & Garmston, 1989) and has positive benefits on supervisee self-esteem (Caracciolo, Morrison, & Rigrodsky, 1980), self-exploration (McCrea, 1980), and clinical effectiveness (Caracciolo, Rigrodsky & Morrison, 1978). It is within an environment of acceptance and support (Rogers, 1968) or trust (Costa & Garmston, 1989) that learning, the second goal of the "cognitive coaching" approach to supervision (Costa & Garmston, 1989), can best be facilitated.

Learning

Learning is defined as change in knowledge or behavior or a confirmation of existing knowledge or behavior as a result of experience (Rogers, 1986). Learning is a three part concept wherein the product is the end result, the process is what happens during the act of learning, and the function is some critical aspect of learning such as motivation, retention or transfer (Knowles, 1973). Learning may be for the development of skills, knowledge, understanding, or attitudes, but when the information is applied and creates change in ways of behaving, an individual has learned wisdom (Rogers, 1986).

The behavioral, cognitive and humanistic literatures provide differing theories of learning (Brady, 1985; Doll, 1983; Hyman, 1986; Rogers, 1986). Adults present with unique learning needs and learning style (Knowles, 1973). Basic to learning are the facilitation of thinking processes (Rath, Wassermann, Jonas & Rothstein, 1986). Facilitation of thinking processes occurs within a sequence of pedagogical moves or teaching cyles (Wellar, 1971). Teaching cyles are advanced by a variety of questions (Rath et al., 1986).

Theories of learning. Knowles (1973) summarized the principles of behavioral, cognitive, and personality or humanistic learning theories. Some important principles in the behavioral theory of learning include active participation of the learner, frequent repetition, and reinforcement. New behavior is enhanced through modeling, cueing, and shaping with generalization achieved through practise in a variety of contexts. Some important principles in the cognitive theory of learning include organization of the knowledge, cultural relevancy, form of cognitive feedback, formation of goals, and divergent thinking. Organization of knowledge begins with simplified wholes and progresses to more complex wholes. Cognitive feedback is in the form of hypothesis testing. Goals act as motivators and divergent thinking leads to inventive problem solving. Some important principles in personality or humanistic learning theory include the learner's anxiety level and motivation, the cultural relevancy of the information, and the atmosphere of the learning environment. Learning is facilitated

when the learner is active in the process, the material for learning is relevant to the learner's life or culture, the learning environment is cooperative and democratic so as to reduce the learner's anxiety and the motivation to learn is intrinsic (Rogers, 1986). Learning is also facilitated when the learning act has affective and cognitive aspects (Cole, 1982).

Rogers (1986) defined motivation as "those factors that energize and direct behavioural patterns organized around a goal" (p. 61). Maslow (cited in Doll, 1983; Hyman, 1986) and Hertzberg (cited in Doll, 1983; Hyman, 1986) provided two possible theories of motivation. Maslow (cited in Doll, 1983; Hyman, 1986) developed a hierarchy of "needs" that motivate humans. The lowest level needs, which include physiological,safety, love, and self-esteem needs, must be satisfied before the highest level need, self-actualization, may occur. Self-actualization, the process of becoming, is the need for growth, new knowledge, new skills, or new creations. Hertzberg (Doll, 1983; Hyman, 1986) further developed the self-actualization level and related it to job satisfaction and dissatisfaction. Factors that lead to job satisfaction evolve through motivators which relate to the job content. Such motivating factors include the work itself, achievement, recognition, advancement, possibility of growth, and responsibility. Hygiene factors, which relate to the job environment, may or may not lead to job satisfaction. Hygiene factors include the working conditions, status, job security, salary, interpersonal relations, technical supervision, and administration. Motivation can be learned and is related to goals set by or accepted by the learner (Rogers, 1986).

Brady (1985) summarized the principles of the behavioural, cognitive, and humanistic models of learning as they relate to education. The behavioural model of learning views education as a science, focuses on observable behaviour, stresses measurable outcomes, emphasizes external forces in producing behaviour, and regards behaviour as operating under uniform psychological principles. That is, the behavioural model does not distinguish between learning in the cognitive and affective domains. In the cognitive developmental model, learning occurs through active

problem-solving within a supportive environment. The cognitive developmental model recognizes that individuals learn at different rates, that development is orderly, and that learning takes place gradually. In the interaction model, a humanistic model of learning, students learn through interaction with others. Discussion and problem-solving occur within a supportive environment. In the transactional model, another humansitic model of learning, cognitive and affective operations are inseparable and the emphasis is on the process not the product.

Knowles (1973) provided a summary of conditions that enhance learning based upon the behavioral, cognitive, and humanistic theories of learning. Behavioral theory proposes that the most conducive learning environment is one that encourages self-improvement and rewards new behaviors. Cognitive theory proposes that the learning environment be orderly, have clearly defined goals, have careful explanation of expectations, have opportunities to learn, provide honest and objective feedback, encourage hypothesis testing, and encourage careful inspection and questioning. Humanistic theory proposes that learning is enhanced when the individual and cultural differences of the learner are respected, anxiety level is controlled , and achievement or affiliation motives are encouraged.

Behavioral, cognitive, and humanistic learning theories have identified the following as important to learning: (1) the active participation of the learner, (2) motivation of the learner, (3) relevancy of the information, (4) form of cognitive feedback, and (5) atmosphere of the learning environment.

Adult learning. Knowles (1973) described the adult learner as having a self-concept that is self-directed. The adult's past experience provides a rich resource and broad base for learning. Readiness for learning is "need" dependent, based upon the adult's developmental level or role in society. The adult learner immediately applies new knowledge, if that knowledge is presented at a time when the adult is experiencing a "need" to know. The adult learner is problem centered, learns through inquiry, and prefers a learning environment that is one of mutual sharing, respectfulness,

and collaboration. An educator of adults provides a mechanism for mutual planning, mutual self-diagnosis, mutual formulation of objectives, and mutual evaluation of learning.

Rogers (1986) summarized six factors important to effective learning in adults. These included motivation, the process of providing the stimulus (cue), the process of relating the stimulus to previous learning (engagement), the process through which the learner interacts with the stimulus to create varied responses (activity), the process through which the learner makes judgments (evaluation and feedback) and the reinforcement for responses. Knowles (1973) described the conditions that appear to facilitate adult learning. The learner must feel a need to learn. The learning environment must convey an air of trust, respect, helpfulness, freedom of expression and acceptance. The learner must perceive the goals of learning as his goals, share the responsibility for planning and operating in the learning experience, be committed, and participate actively. Lenz (1982) proposed that, for adult learning to take place, the information must have personal meaning, be related to previous experience and be relevant to learning goals; the learner must actively participate; the learning sessions must be uninterrupted and extend over a long time span; and the learning environment must be unpressured and noncompetitive.

Lenz (1982) and Rogers (1986) recommended that the educator of adults use instructional strategies that include short lectures with frequent breaks, meaningful tasks and activities, and a variety of methods and materials. Instructional methods should be goal oriented, integrate past learning with new information, and provide opportunity for practise. Learning should be proactive or learner centered wherein the adult learner engages in self-initiated growth and discovery and assumes responsibility for learning while the educator serves as the facilitator or catalyst. Learning should progress from simplified wholes to more complex wholes and strive for understanding not memorization.

In summary, the literature identifies many principles important to consider when attempting to facilitate new learning in adults. Adults must experience a "need to know", perceive the

learning goals as relevant, assume responsibility for learning, and be an active participant in the planning for and process of learning. Instructional methods must be goal oriented, presented in an orderly fashion, be varied, and provide opportunity for practise. The learning environment must be democratic, noncompetitive and facilitate cognitive or thinking processes.

Thinking behavior. Thinking has been defined as a search for meaning (Beyer, 1987), a way of learning (Rath, Wassermann, Jonas & Rothstein, 1986), the "mental act by which knowledge is acquired" (Presseisen, 1985 p. 43), and "the operating skill with which intelligence acts upon experience" (deBono, 1987, p. 218). To reach its full potential, skillful thinking requires deliberate and continued instruction and practise (Beyer, 1987).

One basic thinking skill described by Charlton (1987) was analysis, the ability to break down information, to identify relationships, and to organize principles that unify the whole. Raths et al. (1986) identified acts such as comparing, summarizing, observing, classifying, interpreting, criticizing, looking for assumptions, imagining, hypothesizing, collecting and organizing data, applying facts to new situations, and making decisions as basic thinking skills.

Presseisen (1985) discussed four complex thinking processes. These included problem solving, decision making, critical thinking, and creative thinking. The purpose of problem solving is to resolve a difficulty, assemble fact, infer or suggest alternative solutions, test for appropriateness, and give solutions. Systematic problem solving encompasses problem exploration, problem definition, identification of course of action, plan for course of action, implementation of action plan, and follow-up evaluation (Boyd, 1978). Decision making involves the selection of the best response, comparison of advantages and disadvantages, and judgment or justification of the response choice. Critical thinking requires the analysis of arguments, generation of insight, and the development of cohesive logical reasoning patterns. Creative thinking requires the development of new constructive ideas or the elabloration of existing ideas.

Bruner (cited in Knowles, 1973) proposed that the hypothetical mode of teaching, wherein learning occurs through thinking acts of discovery, has greater benefits than the expository mode of teaching, a teacher controlled learning environment. The hypothetical mode of teaching promotes increased intellectual power, a shift from extrinsic to intrinsic rewards, and learning through discovery. New knowledge learned through discovery is more readily accessible in memory. In the hypothetical mode teachers rarely tell what they think, do not accept single answers but seek divergent thinking to increase flexibility, encourage colleagual not subordinate interaction, rarely summarize which tends to close discussion, use questioning as their basic mode of discourse, and measure success through student behavior change not through evaluation.

Raths et al. (1986) differentiated between teacher behaviors that inhibit, limit, or facilitate thinking. Inhibiting behaviors may be of two forms, those that bring closure and those that undermine confidence. Teacher behaviors that close cognitive processing occur when the teacher agrees or disagrees with the learner, does not give the learner time to think, does the thinking by telling or showing the learner, cuts the learner off, or rewards a response. Teacher behaviors that undermine the learner's confidence include put downs, hurtful rejection, sarcasm, and ridicule. Teacher behaviors that limit cognitive processes are questions that require retrieval of specific information (cognitive-memory questions) or a single correct answer (convergent questions). Teacher behaviors that facilitate cognitive processes are those that promote reflection, require analysis, or challenge the student. Reflective behaviors include playback of the learner's ideas, encouragement to openly express ideas, and encouragement to elaborate ideas. Teacher behaviors that require analysis are those that ask for examples, summary, inconsistencies, alternatives, classification of data, comparison, support for ideas, and about assumptions. Teacher behaviors that challenge the learner to extend thinking and take risks are those that ask the learner to generate hypotheses, interpret data, make judgments, apply principles to new situations,

make predictions, and formulate ways to test predictions. MacDonald and Zaret (1968) analyzed the verbal behavior of the classroom and found that in 86% of the transcripts there was congruence between closed teacher behavior and closed learner behavior as well as open teacher behavior and open learner behavior. Closed teacher behavior, which included directing, judging, reproving, rejecting, ignoring, telling, and affirming, led to such closed learner behavior as guessing, confirming, following, parroting, recalling, or counter responding (directing, judging, reproving, rejecting, and defending). Open teaching behavior, which included support, clarification, elaboration, evaluation and acceptance, led to such productive learner behavior as discovery, exploration, experimentation, elaboration, qualification, evaluation, synthesis, explication, and divergent association.

Thinking behaviors are cognitive processes that result in learning. Supervisors, in the process of interaction, may respond to supervisees in a manner that inhibits, limits, or facilitates thinking. Cognitive processes that facilitate problem solving and creative thinking need to be incorporated into the supervisory context to facilitate development of supervisee independence and self-exploration (Shapiro & Moses, 1989).

Teaching cycles. Thinking, which ultimately leads to learning, is evidenced by the sequence of cognitive or teaching processes (Costa & Garmston, 1986). Bellack, Davitz, Kliebar, Hyman, and Smith (1968) and Weller (1971) discussed the teaching processes of the classroom as analyzed by the linguistic behavior of the participants, the teacher and the students. Behavior was analyzed in terms of the pedagogical moves, the content, and the emotional tone of the utterances. Pedagogical moves include acts of structuring, soliciting, responding, and reacting. Structuring moves serve to set the context for subsequent behavior by launching or halting. Soliciting moves elicit verbal or physical responses to attend. Responding moves are reciprocal to and occur in relation to soliciting moves. Reacting moves serve to modify through clarification, synthesis, or explanation. Reacting moves are not directly elicited. Pedagogical moves are cyclic. Meaning or content

is conveyed through separate functions. Substantive meaning refers to the subject matter while substantive-logical meaning refers to the cognitive processes that occur when dealing with subject matter. Substantive-logical meaning includes the cognitive processes of defining, explaining, stating facts , interpreting, stating opinions and justifying. Smith (Anderson, 1988) adapted Weller's (1971) Multidimensional Observational System for the Analysis of Interactions in Clinical Supervision (MOSAICS) for use with the speech pathology supervisory conference. Hagler and Fahey (1987) found five minute segments of the supervisory conference analyzed with MOSAICS (Weller, 1971) were generally valid representations of the entire conference.

In summary, thinking processes are stimulated through a sequence of pedagogical moves or teaching cycles. Through thinking processes learning, the second goal of the "cognitive coaching" approach to supervision (Costa & Garmston, 1989), is facilitated. A primary strategy used by supervisors to facilitate thinking and advance the teaching cyles is that of asking questions.

Questioning behavior. Questions have been classified according to whether they stimulate or limit thinking processes. Gallagher, Aschner and Jenne (1967) based their classification system for questions on the Guilford model of intellect. Gallagher et al. (1967) identified five types of questions that occur in classrooms. Cognitive-memory questions, which elicit recall of information, and routine questions, which manage or structure classroom activity, are considered to be nonproductive questions, because they do not stimulate cognitive processes. Convergent thinking questions require analysis and integration of given or remembered information but lead to an expected or single answer. Though convergent questions may be needed to solve a problem, summarize information, and establish logical sequences of ideas, they tend to limit cognitive processes. Divergent thinking questions facilitate the generation of independent new ideas or perspectives. Divergent questions encourage elaboration of ideas, drawing of conclusions, and generation of new data, which lead to spontaneity, originality, flexibility and initiative (Hyman, 1986). Evaluative

thinking questions are productive, because they facilitate expression of personal opinion, judgment, or interpretation. Gallagher et al. (1967) found that teachers used a higher percentage of cognitive-memory and convergent questions than divergent or evaluative questions. Divergent questions were found to correlate positively with divergent thinking behaviors in students and had a positive effect on student achievement, amount of student participation, and complexity of student participation (Klinzing & Klinzing-Eurich, 1988). Only slight changes in the percentage of divergent questions used by the teacher resulted in high percentages of divergent thinking behaviors in students (Gallagher et al., 1967).

Cunningham (1971) used Gallagher, Aschner and Jenne's (1967) system as the basis for classifying narrow and broad questions. Narrow questions are predictable and require little thought. They are used to collect information, verify ideas and understanding, review information, identify relationships, group relationships, and compare relationships. Narrow questions correspond to cognitive-memory and convergent questions in the Gallagher et al. (1967) system. Broad questions permit a variety of acceptable responses, are not predictable, are thought provoking and lead to hypothesis, prediction, and inferencing. Broad questions correspond to divergent and evaluative questions in the Gallagher et al. (1967) system.

Hoelzel (1987) provided yet another form of question categorization based on Bloom's (1967) taxonomy of educational objectives. Questions are classified based on verb information and intent of the question. Knowledge, the learning and repeating of information from memory, is the goal of classroom questions that have the student label, repeat, list, recall, recognize, define or respond with who, what, when and where information. Comprehension, the understanding of information, is the function of questions that have the student describe, explain, identify, report, compare, illustrate, review, contrast, and locate information. Application, the explanation and application of rules, is the function of questions that have the student solve, choose, use, select, schedule, employ, classify, operate, translate, and demonstrate information. Analysis, critical thinking of information into parts so

as to be able to offer evidence or support conclusions, may occur in reponse to questions that require the student to detect, infer, determine, question, solve, analyze, test, conclude, crticize, or diagram information. Synthesis, the production of an original idea or prediction, is the function of questions that have the student propose, produce, assemble, plan, organize, predict, develop, arrange, design, or collect information. Evaluation, the student's judgment of the value of the information or solution to a problem, is the function of questions that have the student decide, estimate, evaluate, rate, judge, measure, value, or assess information.

In summary, questions may be classified based on how productive the resulting cognitive processes tend to be. Questions which limit productive processes are of a cognitive-memory or convergent nature in the Cunningham (1971) and Gallagher et. al. (1967) systems and fall within the knowledge, comprehension, and application categories of the Bloom (1967) and Hoelzel (1987) systems. Questions which facilitate productive cognitive processes fall within the divergent and evaluative categories (Cunningham, 1971; Gallagher, et al., 1967) or the analysis, synthesis, and evaluation categories (Bloom, 1967; Hoelzel, 1987). It is through the use of questions and the facilitation of cognitive processes that supervisee learning occurs.

Learning, a change in or confirmation of existing knowledge or behavior (Rogers, 1986), is a primary goal for clinical supervision (Costa & Garmston, 1989). Learning theories have identified the learner's motivation, the learner's active participation in the process of learning, the relevancy of the information to be learned, the form of cognitive feedback and the learning environment as important factors to learning, particularly with adult learners (Knowles, 1973; Rogers, 1986). Adults learn through inquiry (Stones, 1964), a learning process that facilitates cognitive processes or thinking behaviors (Costa & Garmston, 1989). Thinking behaviors are facilitated when supervisors respond to supervisees in a manner that promotes reflection, encourages analysis, and challenges (Raths, et al. 1986). Supervisors facilitate thinking behaviors through a sequence of teaching cycles (Smith, 1988).

Teaching cyles and thinking processes are advanced primarily through the use of questions (Cunningham, 1971; Gallagher, et. al. 1967). As thinking processes become internalized, learning occurs which in turn leads to greater independence or autonomy for the learner.

Autonomy

The most frequently cited goal for clinical supervision is that of facilitating change in the supervisee, so that the supervisee ultimately becomes autonomous (Costa & Garmston, 1989) or self-supervising (Anderson, 1988). Self-supervision is evidenced when the supervisee is performing the cognitive processes of supervision independently, spontaneously, and voluntarily (Costa & Garmston, 1989).

Self-supervision. Self-supervision, which involves accurate observation of self, has many synonyms, including self-monitoring, self-evaluation, self-awareness and self-exploration (Anderson, 1988; Crago, 1987; Kaplan, 1983; Meyer, 1978). Meyer (1978) stated that self-supervision is the establishment of a personal goal and a desired criterion level so as to be able to not only judge a change in one's behavior but also judge the maintenance of that change. Implicit in Meyer's (1978) definition is that the locus of control remains within the individual.

> To cognitive, humanistic, and adult education (androgogical) theorists the individual learner's own perception of what he wants to become, what he wants to be able to achieve, at what level he wants to perform, is the starting point in building a model of competencies...(Knowles, 1973, p. 110).

To achieve competency, Knowles (1973) recommended that one begin with the construction of a model of competencies. This is followed by an assessment of discrepancies. That is, the learner must look for the gaps between competency, as specified in the model, and the learner's level of development. The learner is to identify where he is now and where he wants to be. This involves self-assessment. The supervisor merely provides the learner with the learning tools and procedure for the self-assessment. Following

identification of gaps, the learner develops objectives for change. Goals are described in terms of the kind of behavior expected and the content or context in which the behavior will apply. Terminal behavior is named, defined according to the conditions under which it will occur, and defined according to a criterion for acceptable performance. Casey (1987, 1988) incorporated the principles of identifying gaps and developing goals for change in her Supervisory Skills Self-Assessment Instrument.

The process of changing behavior is dynamic but gradual. Crago (1987) suggested that we begin the process of self-exploration with an "inward" search in order to identify the behaviors for change. The second stage of the process is that of changing behavior and thus moving forward in personal growth. Self-supervision involves the processes of observation, goal setting, data collection, data analysis, problem solving, and evaluation.

Crago (1987) proposed that self-supervision is not only fundamental to the supervisee but is fundamental to the supervisor in order to remain a competent professional. A supervisor's lack of self-awareness may have consequences for the supervisee (Crago, 1987), because inaccurate perception of self may lead to selective interpretation which may unconsciously obscure what actually occurs (Cogan, 1973). Casey (1988) suggested that self-assessment may be a method through which to measure supervisor effectiveness and document supervisor accountability.

Accountable supervision. The need for speech-language pathology supervisors to be accountable for the quality of supervision was first recognized as a professional responsibility when the American Speech-Language-Hearing Association (1985) formulated a position paper on the tasks and competencies of clinical supervision. Accountability and efficiency issues fall within a neo-scientific management theory of supervision (Sergiovanni, 1975). The attempt to control efficiency has resulted in the "quality-control" movement which has lead to the principles of management by objectives (House, 1975). Management by objectives involves the development of acceptable objectives, identification of activites to achieve objectives, implementation of

objectives, evaluation of achievement and the modification of future activities to achieve objectives.

In summary, teaching supervisees self-exploration encourages them to be autonomous self-supervising clinicians, the ultimate goal of supervision. Self-exploration is important for supervisors too, because innacurate perceptions of self may influence perceptions of the supervisee (Crago, 1987). Speech-language pathology clinical supervisors have a professional responsibility to be competent at supervisory tasks (American Speech-Language-Hearing Association, 1985) and should be accountable for their supervision (Casey, 1988).

Summary

The supervisory process, an interactional process between the supervisor and the supervisee, is a dynamic, problem solving continuum of learning for which the ultimate goal is the development of a self-supervising, autonomous clinician (Anderson, 1988; Costa & Garmston, 1989). Self-supervising autonomous clinicians voluntarily, spontaneously and independently perform the cognitive processes of supervision (Costa & Garmston, 1989). The cognitive processes, facilitated through supervisor questioning behaviors (Gallagher et. al., 1967), over time lead to learning. Learning is best facilitated in an environment of trust. An environment of trust is created when facilitative supervisor behaviors of empathy, respect, facilitative genuineness, and concreteness are present (McCrea, 1980). A trust or facilitative relationship with the supervisee and the facilitation of learning through cognitive processes or thinking behaviors are competencies necessary for an effective working relationship (American Speech-Language-Hearing Association, 1985). Supervisors have a professional responsibility to develop and maintain an effective working relationship with their supervisees (American Speech-Language-Hearing Association, 1985).

The literature suggests that supervisors may not be achieving an optimal working relationship with their supervisees because their supervisory behaviors are not consistent with the Clinical Supervision Model (Dowling, 1987b; Roberts & Smith, 1982; Smith &

Anderson, 1982). Supervisors tend to be directive (Culatta & Seltzer, 1976; Nilsen, 1983; Roberts & Smith, 1982; Smith & Anderson, 1982) and tend not to change their behaviors over time or in response to the needs of supervisees (Culatta & Seltzer, 1977; Roberts & Smith, 1982).

Few studies exist that have investigated methods which effectively create change in supervisor behaviors. Culatta & Seltzer (1977) found that supervisors did not change their supervisory behaviors in response to self-assessment. Culatta & Seltzer (1977) attributed the results to a lack of feedback. Cimorell-Strong and Ensley (1982) found that supervisors changed their behaviors in response to direct supervisee feedback. Hagler (1986) found that direct feedback effectively created change in supervisors' talk time. Thorlacius (cited in Brasseur, 1987) found that workshop training effectively created change in supervisors' indirect conferencing behaviors when participants were motivated. More recently, a few single-subject studies have demonstrated that supervisors change their conferencing behaviors when active in the process of creating change (Brasseur, 1987) and when they receive instruction (Strike, 1989).

In summary, the literature suggests that supervisors tend not to change their behavior (Culatta & Seltzer, 1977; Roberts & Smith, 1982) unless they receive directive feedback (Cimorell-Strong & Ensley, 1982; Hagler, 1986) and are active in the process of creating change (Brasseur, 1987). The only study to date which has encompassed the concept of supervisor self-assessment on a large group basis is that of Culatta and Seltzer (1977). However, that study was primarily designed to provide data on adaptations of the Boone and Prescott Interaction Analysis System (1972) for the analysis of supervisory conferences. Although supervisors actively analyzed the interactional patterns of their supervisory conferences for six weeks using the Boone and Prescott Interaction Analysis System (1972), supervisors did not change their behaviors in response to the self-exploration activity. Although Culatta and Seltzer (1977) hypothesized that the lack of change may have been attributable to a lack of feedback, the recent findings of Thorlacius

(cited in Brasseur, 1987) and Strike (1988) offer another possible explanation. That is, knowledge or instruction and active participation combined may create change in supervisors' behaviors.

Thus it would appear that there is a need for more research that investigates the effects of supervisors' self-exploration when supervisors are made knowledgable about supervisory behaviors that are facilitative, are provided with instruction in the use of new skills and are active in the process of creating change. Should such research show that supervisors who engage in self-exploration activities change their conferencing behaviors and that in turn has a positive effect on supervisees' conferencing behaviors, then such an outcome would lend support to the concept of self-exploration as a valuable supervisory activity and a possible method for the measurement of supervisor accountability.

Purpose

The primary purpose of this study was to investigate the effects of guided supervisor self-exploration on supervisor and supervisee conferencing behaviors. The secondary purpose was to investigate the relationship between supervisor and supervisee conferencing behaviors. The independent variables were two levels of self-exploration: self-exploration (experimental) and no self-exploration (control). The three levels of time were one pre-experimental condition and two post-experimental conditions. The supervisor level of interpersonal behavior for four conditions of trust was measured by the dependent variables labelled (1) empathic understanding, (2) respect, (3) facilitative genuineness, and (4) concreteness (McCrea, 1980). The supervisor level of productive questions was measured by the dependent variable labelled (5) supervisor percentage of productive questioning behaviors. Supervisee conferencing behaviors were measured by the supervisee ratio of (6) analytic/evaluative processes, (7) diagnostic/prescriptive processes and (8) complex/simple processes.

The following questions were posed:

1. What effect does guided supervisor self-exploration have on supervisors' levels of trust behaviors?

2. What effect does guided supervisor self-exploration have on supervisors' productive questioning behaviors?
3. What effect does guided supervisor self-exploration have on supervisees' conferencing behaviors ?
4. Is there a relationship between supervisors' levels of trust behaviors and supervisees' conferencing behaviors?
5. Is there a relationship between supervisors' productive questioning behaviors and supervisees' conferencing behaviors?

The following hypotheses were made:

1. Guided supervisor self-exploration will increase supervisors' levels of trust behaviors.
2. Guided supervisor self-exploration will increase supervisors' percentage of productive questioning behaviors.
3. Guided supervisor self-exploration will decrease supervisees' ratios of analytic/evaluative and diagnostic/prescriptive conferencing behaviors and will increase supervisees' ratios of complex/simple conferencing behaviors.
4. There is a positive relationship between supervisors' levels of trust behaviors and supervisees' conferencing behaviors.
5. There is a positive relationship between supervisors' percentage of productive questioning behaviors and supervisees' conferencing behaviors.

CHAPTER 3
METHODOLOGY

Subjects

Eleven supervisor-supervisee pairs participated. Supervisors were registered members of the Canadian Association of Speech Language Pathologists and Audiologists (CASLPA). Supervisees were undergraduate students in the Department of Speech Pathology and Audiology at the University of Alberta. Subjects participated in only one treatment group. Supervisees with more than one supervisor in a practicum placement were excluded from the study. Subject pairs were assigned to either the control or experimental group to maintain balanced representation for supervisors' clinical supervisory experience, supervisors' knowledge of the supervisory process and supervisees' experience level.

Six subject pairs participated in the control group. Four control group supervisors were inexperienced and two were experienced at clinical supervision. The median number of students supervised prior to participation in the study was 3.5. None of the control group supervisors had taken formal coursework in the study of clinical supervision but two had participated in workshops on clinical supervision. There were one inexperienced, two moderately experienced and three experienced supervisees.

Five subject pairs participated in the experimental group. All five experimental group supervisors were inexperienced at clinical supervision. The median number of students supervised prior to participation in the study was 3.0. None of the experimental group supervisors had taken formal coursework in the study of clinical supervision but three had participated in workshops on clinical supervision. There were one inexperienced, two moderately experienced and two experienced supervisees.

Materials

Supervisors received a letter (Appendix A) outlining the procedures and requirements of the study, a consent to participate form (Appendix B), and a demographic information form (Appendix C) requesting information on subject name, employment setting,

education level, professional affiliations, years work experience, number of students previously supervised, and formal/informal knowledge of the supervisory process. Supervisees received a consent form (Appendix D) containing a brief description of the procedures and requirements of the study. On the same form supervisees provided information on previously accrued number of practicum hours, W-PACC clinician level and current supervisor's name. Upon termination of the study, supervisors completed the Supervisor Questionaire (Appendix E) and supervisees completed the Supervisee Questionaire (Appendix F).

Audio recordings were made utilizing a good quality portable cassette tape recorder. Audio tapes were supplied by the researcher.

A seven minute video tape was created for use during the inservice component of the study. It was made with 3/4 inch videotape and good quality video recording equipment. This tape depicted two clinical supervisors role playing a supervisor and supervisee in two different scenarios of a supervisory conference. The first scenario depicted a traditional supervisory conference in which the supervisor set the agenda, provided evaluative feedback and suggestions, and the supervisee provided factual information. The script for this scenario was taken directly from an actual supervisory conference. The second scenario depicted a "cognitive coaching" (Costa & Garmston, 1989) supervisory conference in which the supervisor asked questions to promote autonomous supervisee problem solving, used active listening behaviors such as paraphrasing and clarification, avoided evaluative statements and provided suggestions once the supervisee had been given the opportunity to generate suggestions. The supervisee provided observations, explanations and suggestions, asked questions, and evaluated client and clinician behavior. The script for this scenario was adapted by the researcher from the traditional script.

Supervisors who participated in the experimental group received a copy of the modified Rath et al. (1986) coding sheet for thinking behaviors. They were also provided with procedures and score sheets for the Underwood Category System for Analyzing

Supervisor-Clinician Behavior (Underwood, 1979) to use for self-exploration activities.

Procedural guidelines and score sheets for McCrea's Adapted Scales (Anderson, 1988) were used by the researcher to code supervisor trust behaviors of empathy, respect, facilitative genuineness, and concreteness. Procedural guidelines for the Gallagher et al. (1967) classification system for questions were used to code supervisor productive and unproductive questioning behaviors. Procedural guidelines and score sheets for Smith's MOSAICS (Anderson, 1988) were used to code supervisee analytic, evaluative, diagnostic, prescriptive, complex and simple behaviors.

Setting

Audio recordings of most supervisory conferences were made in a quiet setting typically used by the supervisee-supervisor pair for conferencing. One supervisory conference was recorded in a cafeteria but was not used as a data source.

Procedure

Prior to the initiation of the study information on supervisor experience level, supervisor knowledge of the supervisory process and supervisee experience level was obtained with the intent of having balanced treatment groups. Supervisor experience level was defined by the number of students previously supervised. Supervisors were rated as inexperienced (previously supervised 0-4 students), moderately experienced (previously supervised 5-9 students) and very experienced (previously supervised 10 or more students). Supervisor knowledge of the supervisory process was defined by the presence or absence of formal training in the area of supervision. Formal training was defined as completion of a university accredited course in clinical supervision. Supervisee experience level was defined by the number of practicum hours previously accrued. Supervisees were rated as inexperienced (previously accrued less than 50 practicum hours), moderately experienced (previously accrued 50-100 practicum hours), and experienced (previously accrued 100 or more practicum hours). Subjects were then assigned to the experimental or control group.

Audio recordings of supervisory conferences were introduced in the second or third week of the practicum. Audio recordings were obtained for seven thirty-minute supervisory conferences held approximately one week apart. Recordings were introduced with an identification code number, recording date, and conference number. Each conference recording was a maximum of thirty minutes. If the conference extended beyond thirty minutes, only the first thirty minutes were used for data collection. Participants were asked to restrict conference discussions to client and supervisee related issues.

Control Group

Subjects in the control group audio recorded thirty-minute (maximum) supervisory conferences held approximately one week apart for seven conferences. Audio recordings were returned to the researcher after weeks two and/or seven. Control group supervisors did not have any other interaction with the researcher.

Experimental Group

Subjects in the experimental group audio recorded thirty-minute (maximum) supervisory conferences held approximately one week apart for seven conferences. Audio recordings one and two were returned to the researcher after week two. Supervisors in the experimental group then audio recorded one supervisory conference during week three and attended an inservice. Inservicing was offered on an individual basis. Inservice topics included a brief description of Anderson's (1988) model of clinical supervision, a description of the "cognitive-coaching" (Costa & Garmston, 1989) approach to supervision followed by the video-taped scenarios of a traditional and a "cognitive-coaching" supervisor-supervisee interaction. The areas for supervisor self-exploration were then identified as the provision of a supportive relationship and questions which promote thinking skills. The modified Rath's et al. (1986) form for tallying thinking behaviors and the Underwood Category System for Analyzing Supervisor-Clinician Behavior (Underwood, 1979) were introduced as the tools for self-exploration during the study. Supervisors in the experimental group analyzed a five-minute sample of their third conferences using the modified

Rath et al. (1986) form and the Underwood Category System (Underwood, 1979). Supervisors in the experimental group collected initial data on their supportive and questioning behaviors. They identified from among their own supervisory behaviors those which demonstrated or did not demonstrate support and those which facilitated or did not facilitate supervisee thinking. Experimental group supervisors were encouraged to establish goal statements and a plan of action for future sessions. During the subsequent supervisory conferences, experimental group supervisors implemented their plans. Following each conference, experimental group supervisors analyzed a five-minute sample of the conference to determine how effective they were at modifying their behavior. Data collection and course of action implementation continued for four weeks. Post treatment data analysis continued for three weeks. At the end of week seven, audio recordings were returned to the researcher. Participants also returned individual data collected during the self-exploration activities. At the end of the experimental period of data collection, supervisors completed the Supervisor Questionaire and supervisees completed the Supervisee Questionaire.

The following outline summarizes the sequence of events.

Week	Control Group	Experimental Group
1	Audio record	Audio record
2	Audio record	Audio record
	Return audio recordings	Return audio recordings
3	Audio record	Audio record
		Attend inservice
		Begin Self-exploration
4	Audio record	Audio record
		Self-exploration
5	Audio record	Audio record
		Self-exploration
6	Audio record	Audio record
		Self-exploration
7	Audio record	Audio record
		Self-exploration

Return audio recordings	Return audio recordings
Complete questionaires	Return self-exploration goal and data sheets
	Complete questionaires

Data Collection

Pre-treatment data were obtained from audio recordings of supervisory conferences held during week two. Treatment data were obtained from supervisory conferences held during weeks four and six of the study. A five-minute segment selected from the approximate middle of each supervisory conference used as a data source yielded supervisor and supervisee dependent variables.

Supervisor trust behaviors of empathic understanding, respect, facilitative genuineness and concreteness were ranked on a seven-point rating scale according to the guidelines established for McCrea's Adapted Scales (Anderson, 1988). Supervisor productive and unproductive questions were classified according to the categories defined by Gallagher et al. (1967). Productive (broad) questions included divergent and evaluative questions. Unproductive questions included cognitive-memory, convergent and routine questions. A percentage of productive questions was derived using the formula:

$$\% \text{ Productive Questions} = \frac{\text{number of productive questions}}{\text{total number of questions}} \times 100$$

Supervisee analytic, evaluative, diagnostic, prescriptive, complex and simple behaviors were analyzed according to the guidelines established for Smith's Multidimensional Observational System for the Analysis of Interactions in Clinical Supervision (MOSAICS)(Anderson, 1988). Analytical behaviors included supervisee statements of fact (FAC), explanation (XPL), suggestion (SUG) and explanation of suggestion (SGX). Evaluative behaviors included supervisee statements of evaluation (EVL), justification (JUS), opinion (OPN), and justification of opinion (OPJ). An analytic/evaluative ratio was derived using the formula:

$$A/E = \frac{A}{A+E} = \frac{(FAC + XPL + SUG + SGX)}{[A + (EVL + JUS + OPN + OPJ)]}$$

Diagnostic behaviors included supervisee statements of fact, explanation, evaluation, and justification. Prescriptive behaviors included supervisee statements of suggestion, explanation of suggestion, opinion and justification of opinion. A diagnostic/prescriptive ratio was derived using the formula:

$$D/P = \frac{D}{D+P} \qquad \frac{(FAC + XPL + EVL + JUS)}{[D + (SUG + SGX + OPN + OPJ)]}$$

Complex behaviors included supervisee statements of explanation, justification, explanation of suggestions and justification for opinions. Simple behaviors included supervisee statements of fact, evaluation, suggestion and opinion. A complex/simple ratio was derived using the formula:

$$C/S = \frac{C}{C+S} \qquad \frac{(XPL + JUS + SGX + OPJ)}{[C + (FAC + EVL + SUG + OPN)]}$$

Reliability

Intrajudge Reliability

Intrajudge reliability information was obtained on all dependent variables for the segment of the supervisory conference from which data were obtained. This was done for one recording per subject or one-third of the total number of segments contributing to the data base. Intrajudge reliability procedures occured two or more weeks after the data were initially analyzed.

Intrajudge point-to-point reliability on the McCrea's Adapted Scales (Anderson, 1988) was 88.8 percent. Intrajudge point-to-point reliability for the Gallagher et al. (1967) question classification system was 95.56 percent. Intrajudge point-to-point reliability on the MOSAICS (Anderson, 1988) was 91.02 percent.

Interjudge Reliability

Interjudge reliability was obtained on all dependent variables for the segment of the supervisory conference from which data were obtained. This was done for one recording per subject or one-third of the total number of segments contributing to the data base. Two judges collected reliability data. Before proceeding with reliability measures each judge completed a period of training with the principal investigator in the use of one or more of the instruments used for data collection. One judge, previously familiar with the

McCrea's Adapted Scales (Anderson, 1988), completed a period of training in the use of this instrument and the Gallagher, Aschner, and Jenne's (1967) classification system for questions. The second judge, previously familiar with the MOSAICS (Anderson, 1988), completed a period of training in the use of this instrument. Once reliability procedures began, discrepancies between judges were discussed. If no agreement was reached on the actual score the researcher's data were used for analysis.

Interjudge point-to-point reliability for the McCrea's Adapted Scales (Anderson, 1988) was 76.2 percent. Interjudge point-to-point reliability for the Gallagher et al. (1967) question classification was 78.6 percent. Intrajudge point-to-point reliability for the MOSAICS (Anderson, 1988) was 82.7 percent.

Participant Reliability

Subjects in the experimental group returned their self-exploration data for supervisory conferences three, four, five, and six. Subjects in the experimental group consistently (100%) collected data on supervisor and supervisee behaviors using the Underwood Category System (Underwood, 1979) and on supervisor behaviors using the Raths et al. (1986) coding sheet for thinking behaviors.

Data Analysis

Nonparametric and parametric data analyses were used to measure the effects of supervisors' guided self-exploration on supervisors' and supervisees' conferencing behaviors. The StatView SE + Graphics (Feldman, Hofmann, Gagnon & Simpson, 1988) statistical program was used for nonparametric and parametric data analyses. Because the dependent variables for supervisors' levels of trust (empathic understanding, respect, facilitative genuineness, and concreteness) and supervisors' productive questions represented ordinal level data, the Mann-Whitney U test and the Friedman two-way analysis of variance (Feldman et al., 1988) were used to measure group and time differences respectively. The Mann-Whitney U test (Feldman et al., 1988) was used to measure group differences to answer the questions about the effects of guided self-exploration on supervisors' levels of trust (Question 1) and supervisors'

productive questioning behaviors (Question 2). The Friedman two-way analysis of variance (Feldman et al., 1988) was used to measure time differences to answer the questions about the effects of guided self-exploration on supervisors' levels of trust (Question 1) and supervisors' productive questioning behaviors (Question 2). Two-factor analyses of variance (ANOVA) (Feldman et al., 1988) with repeated measures on one factor were used to measure the effects of supervisor guided self-exploration on supervisees' conferencing behaviors (Question 3). The supervisee dependent variables (analytic/evaluative, diagnostic/prescriptive, complex/simple) for Question 3 were represented by interval level data. The Spearman Rank-Order Correlation (Feldman et al., 1988) was used to measure the relationship between supervisors' levels of trust and supervisees' conferencing behaviors (Question 4). The Spearman Rank-Order Correlation (Feldman et al., 1988) was used to measure the relationship between supervisors' productive questioning behaviors and supervisees' conferencing behaviors (Question 5).

CHAPTER 4
RESULTS

Results are discussed below in terms of the effects of supervisors' guided self-exploration on supervisors' and supervisees' conferencing behaviors and the relationship between supervisors' and supervisees' conferencing behaviors.

Supervisors' Trust Behaviors

One index of supervisor trust, **empathic understanding**, was not analyzed, because empathic behaviors occured less than the 20-25 percent minimal frequency level recommended by Casey (1980). Empathic behaviors were present in 8 of the 33 data samples and only one sample met the minimal frequency criterion.

Experimental group supervisors did not differ significantly from control group supervisors in their median levels of **respect** (Table 1). Experimental group supervisors showed slightly higher levels of **respect** than control group supervisors in the first time condition. These levels of **respect** approached but did not reach significance ($U=5.5$, $p=.08$). Experimental group supervisors did not differ significantly from control group supervisors in their levels of **respect** during the second ($U=11$, $p=.47$) and third ($U=10.5$, $p=.41$) time conditions. Median levels of **respect** did not differ significantly ($Chi_r^2=.59$, $p=.74$) across the three time conditions (Figure 1). Experimental group supervisors ($Chi_r^2=2.8$, $p=.25$) and control group supervisors ($Chi_r^2=1.58$, $p=.45$) did not significantly vary their levels of respect over time.

Experimental group supervisors did not differ significantly from control group supervisors in their median levels of **facilitative genuineness** (Table 2). Although experimental group supervisors had slightly higher levels of **facilitative genuineness** than control group supervisors in the second time condition, these levels did not reach significance ($U=5.5$, $p=.08$). Experimental group supervisors did not differ significantly from control group supervisors in their levels of **facilitative genuineness** in the first ($U=12$, $p=.58$) and third ($U=10$, $p=.36$) time conditions. Levels of **facilitative genuineness** did not differ

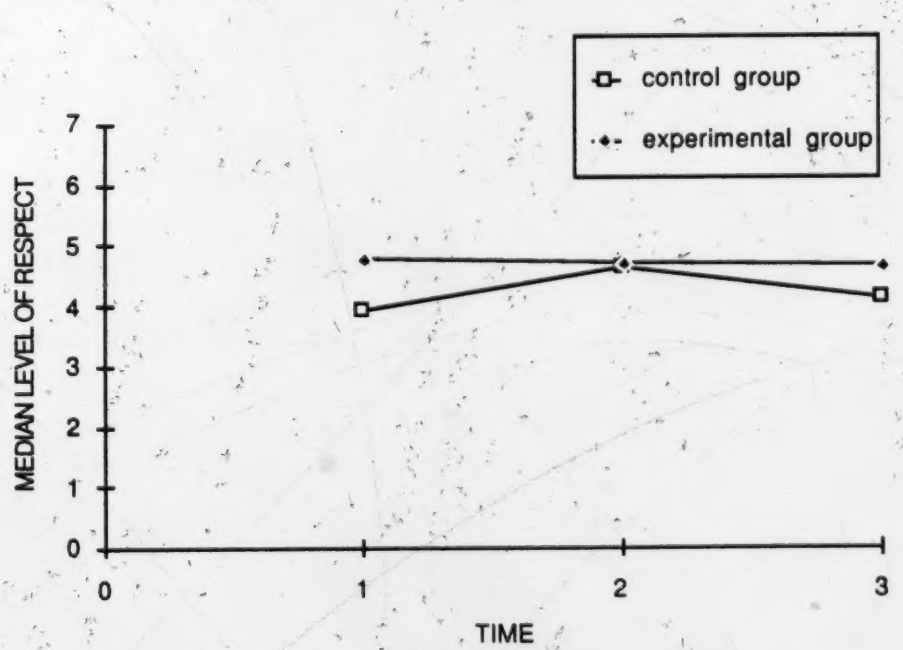
TABLE 1

Median and Mean Values for Supervisors' Levels of Respect for Two Groups Across Three Levels of Time

TIME	R1	R2	R3
GROUP			
Experimental			
Median	4.78	4.71	4.67
Mean	4.75	4.67	4.61
Control			
Median	3.93	4.62	4.12
Mean	3.96	4.43	4.10

FIGURE 1

Median Values for Supervisors' Levels of Respect for Two Groups Across Three Levels of Time



significantly across the three time conditions (Chi_r^2=.55, p=.76) (Figure 2). Experimental group supervisors (Chi_r^2=.40, p=.82) and control group supervisors (Chi_r^2=.33, p=.85) did not significantly vary their levels of facilitative genuineness over time.

Experimental group supervisors differed significantly from control group supervisors in their median levels of **concreteness** (Table 3) for two of the time conditions. Experimental group supervisors were significantly less **concrete** than control group supervisors in the second (U=3, p=.03) and third (U=1, p=.01) time conditions. Experimental group supervisors were not significantly different (U=14.5, p=.93) from control group supervisors in their levels of **concreteness** in the first time condition. Levels of **concreteness** did not differ significantly across the three time conditions (Chi_r^2=3.32, p=.19) (Figure 3). Experimental group supervisors significantly lowered their levels of concreteness over time (Chi_r^2=6.4, p=.04) but control group supervisors did not (Chi_r^2=.08, p=.96).

In summary, experimental group supervisors did not differ significantly from control group supervisors in their levels of **respect** and **facilitative genuineness** but did differ significantly in their levels of **concreteness**. Levels of **respect** and **facilitative genuineness** did not differ significantly over time. Experimental group supervisors' levels of concreteness differed significantly over time.

Supervisors' Productive Questioning Behaviors

Experimental group supervisors differed from control group supervisors in their median **percentage of productive questions** (Table 4) for two of the time conditions. Experimental group supervisors used more **productive questions** than control group supervisors in the second and third time conditions. The **percentages of productive questions** approached but did not reach significance in the second time condition (U=5, p=.07) and reached significance in the third time condition (U=.5, p=.008). Experimental group supervisors did not differ significantly from control group supervisors in their median **percentage of productive questions** in the first time condition (U=12, p=.58).

TABLE 2

Median and Mean Values for Supervisors' Levels of Facilitative Genuineness for Two Groups Across Three Levels of Time

TIME	F1	F2	F3
GROUP			
Experimental			
Median	4.60	4.58	4.20
Mean	4.09	4.46	4.35
Control			
Median	4.12	3.69	3.51
Mean	3.96	3.85	3.84

FIGURE 2

Median Values for Supervisors' Levels of Facilitative Genuineness for Two Groups Across Three Levels of Time

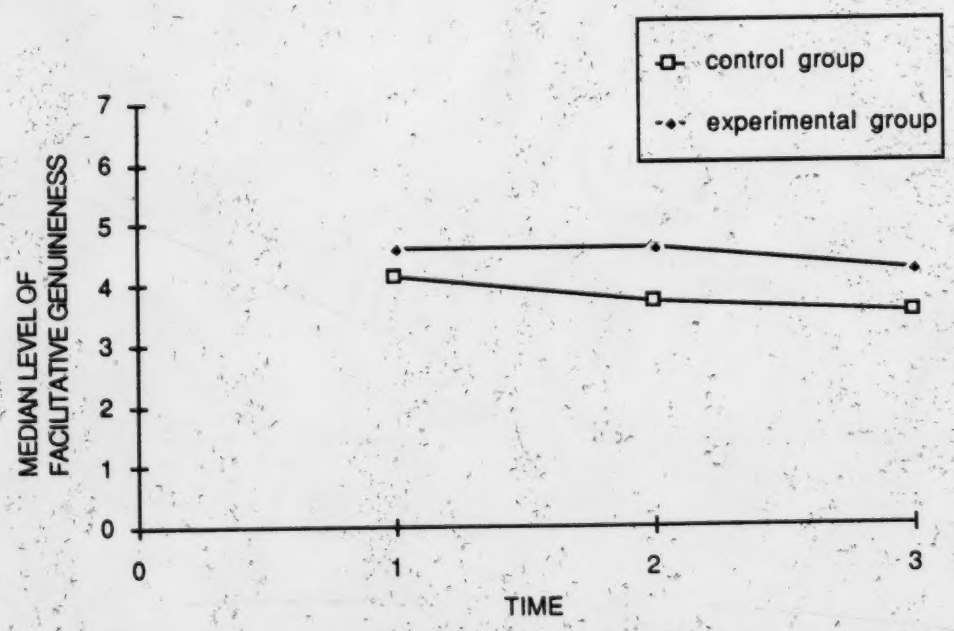


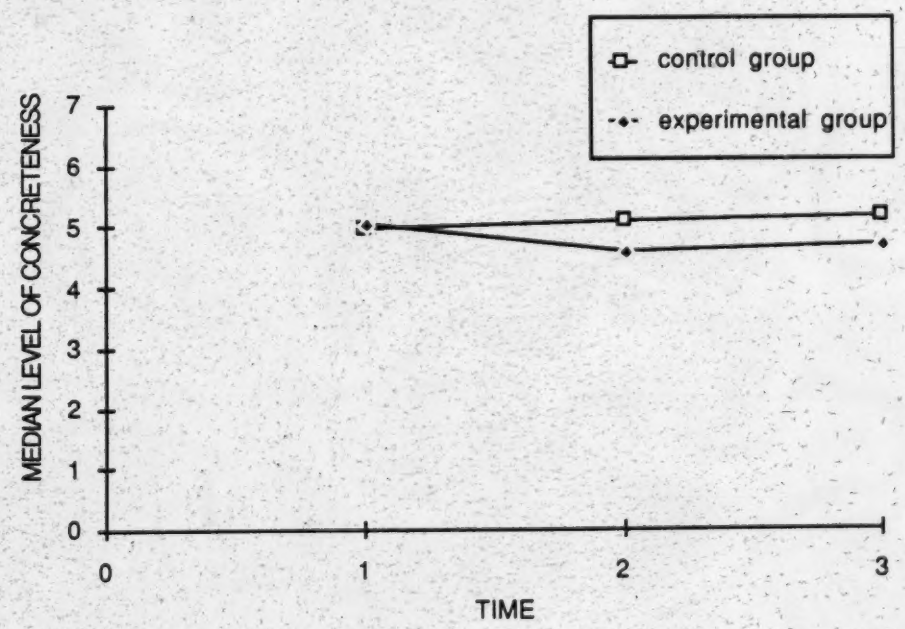
TABLE 3

Median and Mean Values for Supervisors' Levels of Concreteness for Two Groups Across Three Levels of Time

TIME	C1	C2	C3
GROUP			
Experimental			
Median	5.07	4.57	4.71
Mean	5.05	4.57	4.64
Control			
Median	4.98	5.11	5.19
Mean	5.07	5.13	5.17

FIGURE 3

Median Values for Supervisors' Levels of Concreteness for Two Groups Across Three Levels of Time



Percentages of productive questions did not differ significantly across the three time conditions (Chi_r^2=3.05, p=.22)(Figure 4). Experimental group supervisors significantly increased their percentages of productive questions over time (Chi_r^2=10, p=.007) but control group supervisors did not (Chi_r^2=.58, p=.75).

In summary, experimental group supervisors differed significantly from control group supervisors in their **percentage of productive questions** during the third time condition. Experimental group supervisors' percentages of productive questions differed significantly over time.

Supervisees' Conferencing Behaviors

Results of the ANOVA (Table 5) used to measure supervisees' **analytic/evaluative** conferencing behaviors showed no main effect for Group (F=1.53, df=1,9, p=.25), no main effect for Time (F=1.05, df=2,18,p=.37), and no interaction effect (F=.01, df=2,18, p=.99). Supervisees in both groups tended to have high **analytic/evaluative** ratios (Table 6) and maintain high analytic/evaluative ratios across the three time conditions (Figure 5).

Results of the ANOVA (Table 7) used to measure supervisees' **diagnostic/prescriptive** conferencing behaviors showed a significant main effect for Group (F=10.73, df=1,9, p=.01). Experimental group supervisees used less diagnostic and more prescriptive behaviors ($\bar{X}$= .79) than control group supervisees ($\bar{X}$=.92) (Table 8). There was no main effect for Time (F=.24, df=2,18, p=.79) and no interaction effect (F=1.81, df=2,18, p=.19) (Figure 6).

Results of the ANOVA (Table 9) used to measure supervisees' **complex/simple** conferencing behaviors showed a significant main effect for Group (F=7.46, df=1,9, p=.02). Experimental group supervisees used more complex conferencing behaviors ($\bar{X}$=.44) than control group supervisees ($\bar{X}$=.28, Table 10). There was no main effect for Time (F=.78, df=2,18, p=.48) and no interaction effect (F=.55, df=2,18, p=.58)(Figure 7).

TABLE 4

Median and Mean Values for Supervisors' Percentages of Productive Questions for Two Groups Across Three Levels of Time

TIME	Q1	Q2	Q3
GROUP			
Experimental			
Median	0.00	33.33	44.40
Mean	8.89	35.79	48.55
Control			
Median	16.67	14.54	18.54
Mean	18.06	21.51	15.83

FIGURE 4

Median Percentages of Supervisors' Productive Questions for Two Groups Across Three Levels of Time

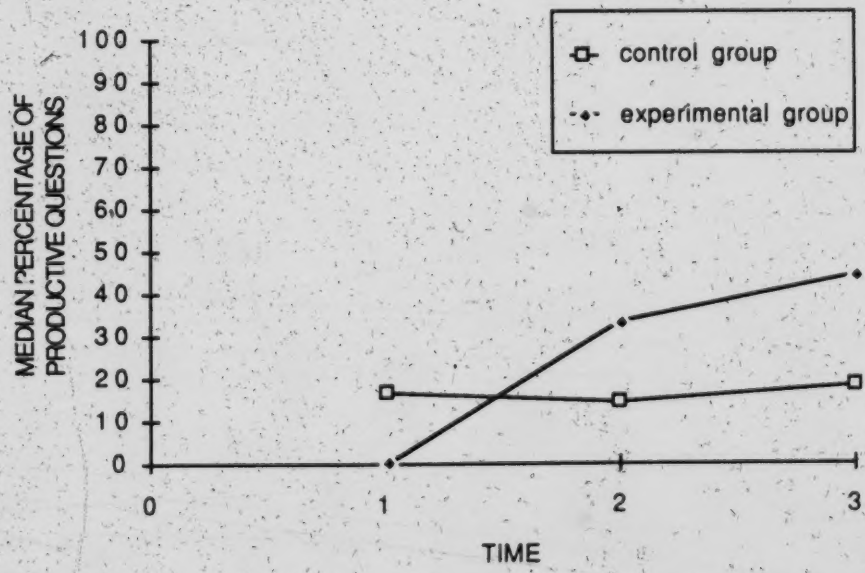


TABLE 5

Summary of ANOVA to Test for Differences in Mean Ratio Values for Supervisees' Analytic/Evaluative Conferencing Behaviors for Two Groups Across Three Levels of Time

SOURCE:	df	Sum of Squares	Mean Square	F-test	P value
GROUP (A)	1	.03	.03	1.53	.2476
subject with groups	9	.16	.02		
Repeated Measure (B)	2	.04	.02	1.05	.3697
AB	2	4.79E-4	2.39E-4	.01	.9874
B x subjects with groups	18	.34	.02		

In summary, experimental group supervisees did not differ significantly from control group supervisees in their **analytic/evaluative** conferencing behaviors. Experimental group supervisees were more prescriptive and complex than control group supervisees as reflected in their **diagnostic/prescriptive** and **complex/simple** behaviors. Supervisees' conferencing behaviors did not differ significantly across the three time conditions.

Relationship Between Supervisors' Trust Behaviors and Supervisees' Conferencing Behaviors

Results of the Spearman Rank-Order Correlation (Table 11) showed no significant correlations between supervisors' levels of **respect** and supervisees' **analytic/evaluative**, **diagnostic/prescriptive** and **complex/simple** conferencing behaviors under any of the time conditions.

Results of the Spearman Rank-Order Correlation (Table 12) showed no significant correlation between supervisors' level of **facilitative genuineness** and supervisees' **analytic/evaluative** conferencing behaviors across the three time conditions. A weak negative correlation that approached but did not reach significance (rho=-.55, p=.08) was found between supervisors' level of **facilitative genuineness** and supervisees' **diagnostic/prescriptive** conferencing behaviors in the first time

TABLE 6

Mean Ratio Values for Supervisees' Analytic/Evaluative Behaviors for Two Groups Across Three Levels of Time

REPEATED MEASURE		A/E1	A/E2	A/E3	Totals:
GROUPS					
Experimental	(n)	(5)	(5)	(5)	(15)
		.86	.84	.78	.82
Control	(n)	(6)	(6)	(6)	(18)
		.91	.90	.83	.88
Totals:	(n)	(11)	(11)	(11)	(33)
		.89	.87	.81	.86

FIGURE 5

Mean Ratio Values for Supervisees' Analytic/Evaluative Behaviors for Two Groups Across Three Levels of Time

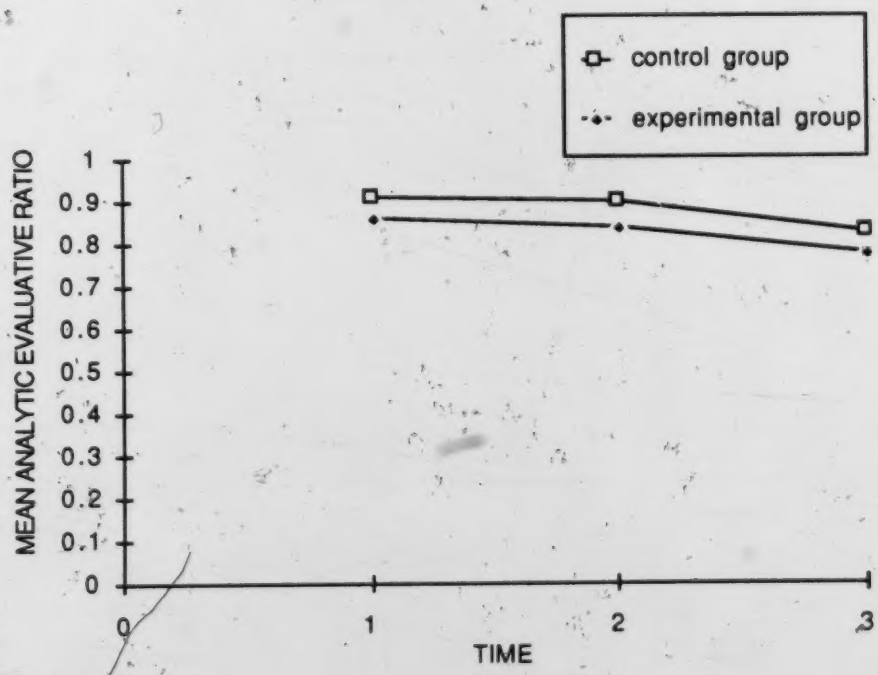


TABLE 7

Summary of ANOVA to Test for Differences in Mean Ratio Values for Supervisees' Diagnostic/Prescriptive Conferencing Behaviors for Two Groups Across Three Levels of Time

SOURCE:	df	Sum of Squares	Mean Square	F-test	P value
GROUP (A)	1	.13	.13	10.73	.0096
subject with groups	9	.11	.01		
Repeated Measure (B)	2	.01	.01	.24	.791
AB	2	.08	.04	1.81	.1915
B x subjects with groups	18	.38	.02		

condition only. A moderate positive correlation (rho=.69, p=.03) was found between supervisors' level of **facilitative genuineness** and supervisees' **complex/simple** conferencing behaviors in the third time condition only.

Results of the Spearman Rank-Order Correlation (Table 13) showed no significant correlation between supervisors' levels of **concreteness** and supervisees' **analytic/evaluative** conferencing behaviors across the three time conditions. A weak positive correlation that approached but did not reach significance (rho=.58, p=.07) was found between supervisors' level of **concreteness** and supervisees' **diagnostic/prescriptive conferencing** behaviors in the third time condition only. A significant moderate negative correlation (rho=-.65, p=.04) was found between supervisors' level of **concreteness** and supervisees' **complex/simple** conferencing behaviors in the second time condition only.

In summary, there were no significant correlations between supervisors' levels of **respect** and supervisees' conferencing behaviors. There appeared to be significant correlations between supervisors' levels of **facilitative genuineness** and supervisees' **complex/simple** conferencing behaviors and between supervisors'

TABLE 8

Mean Ratio Values for Supervisees' Diagnostic/Prescriptive Behaviors for Two Groups Across Three Levels of Time

REPEATED MEASURE		D/P1	D/P2	D/P3	Totals:
GROUPS					
Experimental	(n)	(5)	(5)	(5)	(15)
		.87	.78	.71	.79
Control	(n)	(6)	(6)	(6)	(18)
		.89	.89	.97	.92
Totals:	(n)	(11)	(11)	(11)	(33)
		.88	.84	.85	.86

FIGURE 6

Mean Ratio Values for Supervisees' Diagnostic/Prescriptive Behaviors for Two Groups Across Three Levels of Time

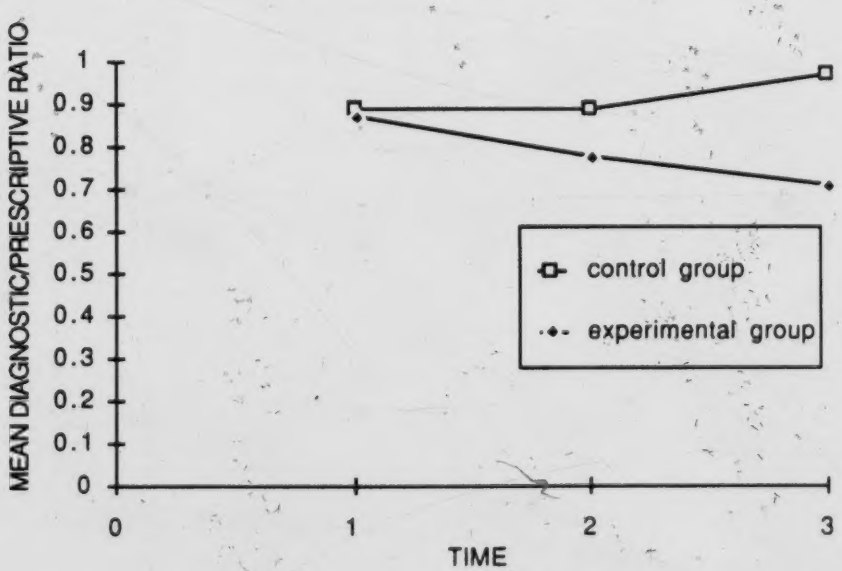


TABLE 9

Summary of ANOVA to Test for Differences in Mean Ratio of Supervisees' Complex/Simple Conferencing Behaviors for Two Groups Across Three Levels of Time

SOURCE:	df	Sum of Squares	Mean Square	F-test	P value
GROUP (A)	1	.21	.21	7.46	.0231
subject with groups	9	.26	.03		
Repeated Measure (B)	2	.05	.02	.78	.4752
AB	2	.03	.02	.55	.5838
B x subjects with groups	18	.53	.03		

levels of **concreteness** and supervisees' **complex/simple** conferencing behaviors.

Relationship Between Supervisors' Productive Questioning Behaviors and Supervisees' Conferencing Behaviors

Results of the Spearman Rank-Order Correlation (Table 14) showed no significant correlation between supervisors' **percentage of productive questions** and supervisees' **analytic/evaluative** conferencing behaviors across the three time conditions.

Results of the Spearman Rank-Order Correlation (Table 14) showed a significant moderate negative correlation between supervisors' **percentage of productive questions** and supervisees **diagnostic/prescriptive** conferencing behaviors in the first (rho=-.66, p=.04) and third (rho=-.66, p=.04) time conditions.

Results of the Spearman Rank-Order Correlation (Table 14) showed a significant moderate positive correlation (rho=.64, p=.04) between supervisors' **percentage of productive questions** and supervisees' **complex/simple** conferencing behaviors in the first time condition only.

TABLE 10

Mean Ratio Values for Supervisees' Complex/Simple Behaviors for Two Groups Across Three Levels of Time

REPEATED MEASURE		C/S1	C/S2	C/S3	Totals:
GROUPS					
Experimental	(n)	(5)	(5)	(5)	(15)
		.34	.49	.49	.44
Control	(n)	(6)	(6)	(6)	(18)
		.27	.28	.29	.28
Totals:	(n)	(11)	(11)	(11)	(33)
		.30	.37	.38	.35

FIGURE 7

Mean Ratio Values for Supervisees' Complex/Simple Behaviors for Two Groups Across Three Levels of Time

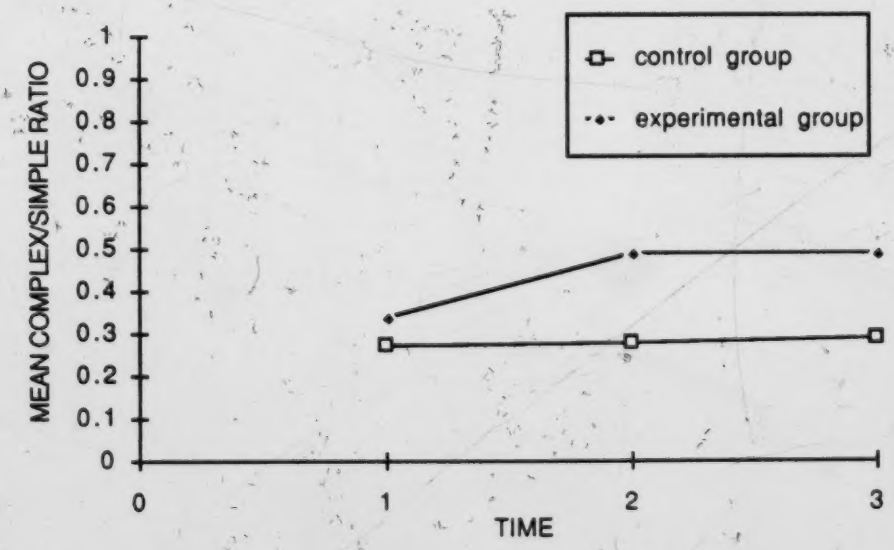


TABLE 11

Spearman Rank-Order Correlations Between Supervisors' Levels of Respect and Supervisees' Analytic/Evaluative, Diagnostic/Prescriptive, Complex/Simple Conferencing Behaviors

	A/E1	A/E2	A/E3	D/P1	D/P2	D/P3	C/S1	C/S2	C/S3
R1	-.01			-.24			.31		
R2		.26			-.01			.47	
R3			.05			-.23			-.03

TABLE 12

Spearman Rank-Order Correlations Between Supervisors' Level of Facilitative Genuineness and Supervisees' Analytic/Evaluative, Diagnostic/Prescriptive, Complex/Simple Conferencing Behaviors

	A/E1	A/E2	A/E3	D/P1	D/P2	D/P3	C/S1	C/S2	C/S3
F1	-.30			-.55			.09		
F2		-.35			-.07			.18	
F3			.04			.01			.69*

* $p \leq .05$

In summary, there was no significant correlation between supervisors' **percentage of productive questions** and supervisees' **analytic/evaluative** conferencing behaviors. There appeared to be some correlations between supervisors' **percentage of productive questions** and supervisees' **diagnostic/prescriptive** and **complex/simple** conferencing behaviors.

TABLE 13

Spearman Rank-Order Correlations Between Supervisors' Level of Concreteness and Supervisees' Analytic/Evaluative, Diagnostic/Prescriptive, Complex/Simple Conferencing Behaviors

	A/E1	A/E2	A/E3	D/P1	D/P2	D/P3	C/S1	C/S2	C/S3
C1	-.03			.33			.19		
C2		.35			.20			-.65*	
C3			.19			.58			-.44

* $p \leq .05$

TABLE 14

Spearman Rank-Order Correlations Between Supervisors' Percentages of Productive Questions and Supervisees' Analytic/Evaluative, Diagnostic/Prescriptive, Complex/Simple Conferencing Behaviors

	A/E1	A/E2	A/E3	D/P1	D/P2	D/P3	C/S1	C/S2	C/S3
Q1	.05			-.66*			.64*		
Q2		.10			-.14			.44	
Q3			.09			-.66*			.20

* $p \leq .05$

CHAPTER 5
DISCUSSION

The primary purpose of this study was to examine the effects of guided supervisor self-exploration on supervisors' and supervisees' conferencing behaviors. The secondary purpose was to examine the relationship between supervisors' and supervisees' conferencing behaviors.

Supervisors' Trust Behaviors

Supervisors tended to offer low levels of trust behaviors as measured by McCrea's Adapted Scales (Anderson, 1988). This trend did not differ significantly over time. Experimental group supervisors differed from control group supervisors for only one index of trust, decreased levels of concreteness.

Empathic Understanding

Trust behaviors of empathic understanding were not included in the analysis, because their frequency of occurrence was below the recommended minimal level (Casey, 1980). Empathic behaviors were recorded in only eight of the thirty-three data samples, and only one sample surpassed the minimal level. Although five of the supervisors demonstrated empathic behaviors during their interactions, only supervisors one and nine demonstrated these behaviors more than twice. The infrequent occurrence of empathic behaviors in the supervisory conferences of this study is consistent with previous research findings (McCrea, 1980).

Respect

Trust behaviors of respect were offered at low levels by both groups of supervisors. The low levels of respect did not vary significantly over time. Supervisors in the experimental group maintained their low levels of respect across the three time conditions (medians=4.78, 4.71, 4.67). Supervisors in the control group had lower levels of respect in the first time condition (median=3.93) but increased their levels in the second (median=4.62) and third (median=4.12) time conditions. The low levels of respect may be attributable to supervisors' low incidence of positive evaluative comments about supervisees' behaviors (experimental

group $\bar{X}$=12.7%; control group $\bar{X}$=13.7%)(Table 15) (Figure 8) and high incidence of cognitive memory questions (experimental group $\bar{X}$=18.9%; control group $\bar{X}$=37.5%)(Table 18). On the McCrea's Adapted Scales (Anderson, 1988) positive evaluative comments are given a high rating and cognitive memory questions are given a low rating. Although experimental group supervisors used more active listening (ie. clarification or paraphrasing of supervisees' ideas) or open-ended questioning behaviors ($\bar{X}$=60.8%) than control group supervisors ($\bar{X}$=33.8%), active listening and questioning behaviors only score in the neutral range on the McCrea's Adapted Scales (Anderson, 1988).

Although no data were collected to support the premise that supervisors in the experimental group used more active listening behaviors than control group supervisors, these behaviors were identified as goals for self-exploration by supervisors one and two. The data collected on questioning behaviors would support the premise that supervisors in the experimental group encouraged supervisees' to analyze or form opinions more frequently than supervisors in the control group. Experimental group supervisors used fewer routine ($\bar{X}$=3.1%) and cognitive memory ($\bar{X}$=36.9%) questions than control group supervisors ($\bar{X}$=15.9% & 44.4%)(Table 18). Experimental group supervisors used more divergent questions ($\bar{X}$=32.3%) than control group supervisors($\bar{X}$=12.7%). Therefore, it may be hypothesized that the experimental condition (ie. self-exploration) may have had some subtle effect on experimental group supervisors' levels of respect, but the tool used to measure respect may not have been sensitive to the kinds of changes that were effected by the experimental condition.

Facilitative Genuineness

Trust behaviors of facilitative genuinenessss were offered at low levels by both groups of supervisors and did not vary significantly over time. The low levels of facilitative genuineness may be attributed to the low incidence of supervisors' evaluative comments about supervisees' behavior (experimental group $\bar{X}$=9.6%; control group $\bar{X}$=7.7%) and the high incidence of supervisors' comments which focused on client behavior, therapy activities, or

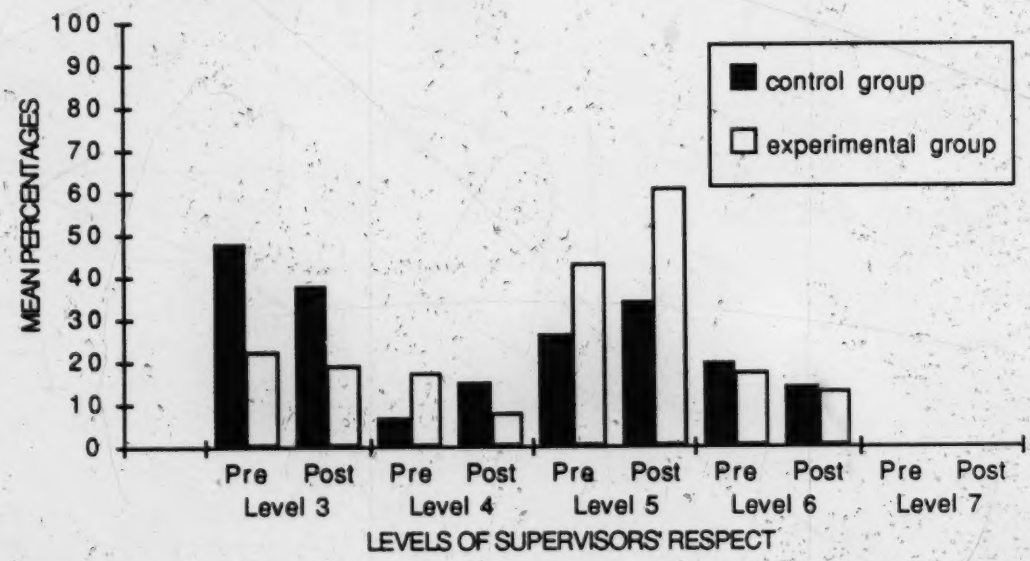
TABLE 15

Mean Percentages for Five Levels of Supervisors' Respect for Two Groups Across Three Levels of Time.

TIME	Pre-Treatment	Post-Treatment		
	1	2	3	Post-Treatment Averages
Levels of Respect Experimental Group Means (Control Group Means)				
Level 3 - Factual Recall Questions/Clarification	22.9 (47.8)	23.8 (31.1)	13.5 (45.7)	18.9 (37.5)
Level 4 - Clarification/Limiting Questions	17.1 (6.5)	4.8 (11.1)	10.8 (20.0)	7.6 (15.0)
Level 5 - Reflection/Open Ended Questions	42.9 (26.1)	59.5 (40.0)	62.2 (25.7)	60.8 (33.8)
Level 6 - Interpretation/Positive Evaluation	17.1 (19.6)	11.9 (17.8)	13.5 (8.6)	12.7 (13.7)
Level 7 - Evaluation with Justification	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)

FIGURE 8

Mean Percentages for Five Levels of Supervisors' Respect for Two Groups Across Two Levels of Time



didactic activites (experimental group $\bar{X}$=30.3%; control group $\bar{X}$=60.6%)(Table 16)(Figure 9). On the McCrea's Adapted Scales, evaluative comments about supervisees' behavior are given a high rating and comments which focus on client behavior, therapy activities, or didactic activities are given a low rating. Slight group differences were found. Supervisors in the experimental group tended to request supervisees' feedback more frequently ($\bar{X}$=50%) than supervisors in the control group ($\bar{X}$=29.8%). Supervisors in the experimental group less frequently focused their discussions on techniques, client behavior and therapy activities ($\bar{X}$=30.3%) than supervisors in the control group ($\bar{X}$=60.6%). Therefore, it may be hypothesized that the experimental condition (ie. self-exploration) may have had some effect on experimental group supervisors' levels of facilitative genuineness.

Concreteness

Trust behaviors of concreteness were significantly different between the experimental and control group supervisors but did not vary significantly over time. Supervisors in the control group tended to be less vague in their comments ($\bar{X}$=33.1%) than supervisors in the experimental group ($\bar{X}$=51.3%)(Table 17). Supervisors in the control group more frequently provided examples or reasons for their comments ($\bar{X}$=25.2%) than supervisors in the experimental group ($\bar{X}$=10.9%)(Figure 10). The experimental condition appeared to have a negative effect on supervisors' level of concreteness, because when the data for the two groups were examined independently across the three time conditions, the experimental group supervisors demonstrated a significant decrease (Chi_r^2= 6.4, p=.04) in their levels of concreteness while control group supervisors did not (Chi_r^2=.8, p=.96). The lowered levels of concreteness observed in the experimental group may be attributed to an increase in the amount of vague terminology ($\bar{X}$=51.3%) and a reduction in the number of explanations and examples ($\bar{X}$=1.7%) from pre-treatment levels ($\bar{X}$=32.3%,13.9%)

TABLE 16

Mean Percentages For Five Levels of Supervisors' Facilitative Genuineness for Two Groups Across Three Levels of Time

TIME	Pre-Treatment	Post-Treatment		
	1	2	3	Post-Treatment Averages
Levels of Facilitative Genuineness Experimental Group Means (Control Group Means)				
Level 3 - Didactic Focus	43.4 (45.9)	25.0 (59.6)	37.0 (61.5)	30.3 (60.6)
Level 4 - Supervisor Feelings	15.1 (9.8)	9.6 (0.0)	4.3 (3.8)	7.1 (1.9)
Level 5 - Request Feedback/Veiled Negative	35.8 (31.1)	55.8 (28.8)	43.5 (30.9)	50.0 (29.8)
Level 6 - Evaluation with Justification	3.8 (13.2)	7.7 (11.6)	10.9 (3.8)	9.6 (7.7)
Level 7 - Evaluation with Justification	1.9 (0.0)	1.9 (0.0)	4.3 (0.0)	3.0 (0.0)

FIGURE 9

Mean Percentages for Five Levels of Supervisors' Facilitative Genuineness for Two Groups Across Two Levels of Time

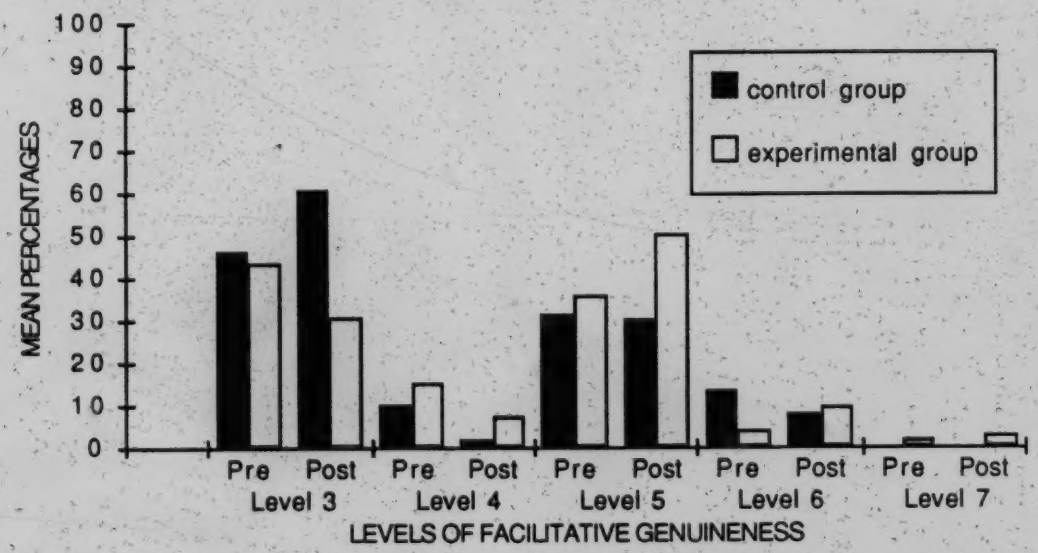


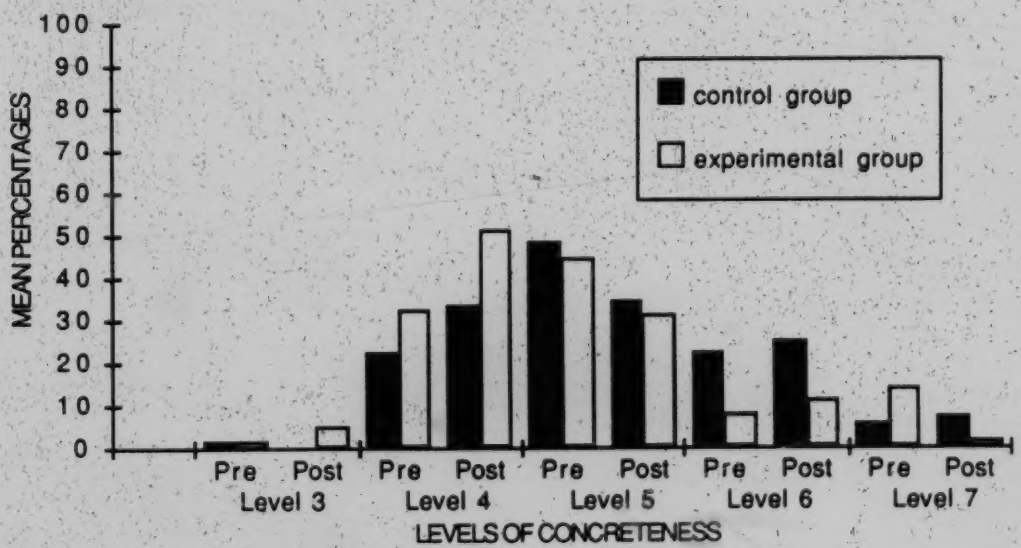
TABLE 17

Mean Percentages of Five Levels of Supervisors' Concreteness for Two Groups Across Three Levels of Time.

TIME	Pre-Treatment	Post-Treatment		
	1	2	3	Post-Treatment Averages
Levels of Concreteness Experimental Group Means (Control Group Means)				
Level 3 - Vague	1.5 (1.5)	6.0 (0.0)	3.8 (1.6)	5.0 (0.1)
Level 4 - Vague/Specific	32:3 (22.1)	52.2 (31.8)	50.0 (34.4)	51.3 (33.1)
Level 5 - Specific	44.6 (48.5)	31.3 (31.8)	30.8 (32.8)	31.1 (34.5)
Level 6 - Specific (examples or reasons)	7.7 (22.1)	9.0 (28.8)	13.5 (21.3)	10.9 (25.2)
Level 7 - Specific (examples and reasons)	13.9 (5.8)	1.5 (7.6)	1.9 (9.9)	1.7 (7.1)

FIGURE 10

Mean Percentages for Five Levels of Supervisors' Concreteness for Two Groups Across Two Levels of Time



Self-exploration and Trust

The lack of change in supervisors' levels of respect and facilitative genuineness behaviors under the experimental condition may be attributable to three factors. First, the data collected by the experimental group during the self-exploration activities suggested that trust behaviors may not have been a focus for self-exploration. Supervisors were encouraged to establish goal statements, but only supervisors two and five wrote out their goal statements on a weekly basis. Supervisor two specified the use of paraphrasing as a self-exploration goal and supervisor five specified a variety of questioning behaviors as a self-exploration goal. Supervisor one did not write a goal statement for supportive behaviors but verbally stated to the researcher that paraphrasing had been a self-exploration goal. This information suggested that trust behaviors were not a specific focus of self-exploration for all supervisors in the experimental condition. The data generated by the experimental group supervisors during the self-exploration activities showed that, on the average, statements of praise were present 7.6 percent of the time during the pre-treatment condition (range=0-25%) and remained below that level during the treatment conditions (range=0-13.3%). On the average active listening behaviors were present 4 percent of the time during the pre-treatment condition (range=0-11%) and increased slightly to an average of 10.3 percent during the treatment conditions (range=1-66%). The fact that some but not all experimental group supervisors actively engaged in self-exploration of trust behaviors suggested that perhaps the experimental condition was not perceived in the same manner by each of the experimental group supervisors. Although the researcher stated to each experimental group supervisor during the inservice that self-exploration should encompass supportive and questioning behaviors, this statement alone may not have provided enough guidance to ensure that all experimental group supervisors pursued self-exploration for supportive behaviors.

A second factor potentially influencing the lack of change in supervisors' levels of respect and facilitative genuineness is that the tools used by experimental group supervisors to measure trust

behaviors during self-exploration activities may not have been as sensitive as those used to measure questioning behaviors. In the Underwood Category System (Underwood, 1979), which was used as the self-exploration tool for trust behaviors, trust behaviors are categorized only according to statements of praise and use of the clinician's ideas. Although percentages of praise and use of the clinician's ideas may be tabulated, there is no formula that specifically derives a cummulative percentage of supportive behaviors. There is however, a formula that derives a cummulative percentage of problem solving behaviors. On the other hand, the McCrea's Adapted Scales (Anderson, 1988), the measurement tool used by the researcher to investigate trust behaviors, appears to be a more sensitive measure of supportive or interpersonal conditions, because it provides a seven point rating scale for four indices of trust.

A third factor potentially influencing the low levels of respect and facilitative genuineness present in the experimental group may be the incongruence of the "cognitive coaching" model for clinical supervision (Costa & Garmston, 1989) and McCrea's Adapted Scales (Anderson, 1988), the tool used by the experimenter to measure levels of trust behaviors. Low levels of evaluation and high levels of reflective listening behaviors (ie. clarification & paraphrasing) are consistent with the "cognitive coaching" model of supervision (Costa & Garmston, 1989). However, in McCrea's Adapted Scales, (Anderson, 1988) evaluative statements about supervisees' behaviors score high on the scales for respect and facilitative genuineness. Active listening behaviors score in the neutral range.

The lowered levels of concreteness exhibited by experimental group supervisors may be attributable to an increase in vague terminology and a reduction of specific rationale, explanations, and examples. These changes may have occurred because experimental group supervisors were attempting to reduce their number of suggestions and opinions and, in an effort to avoid being too directive, may have become too vague.

In summary, the self-exploration condition was not effective in changing supervisors' levels of trust behaviors for two indices of

trust, respect and facilitative genuineness. The self-exploration condition may have had an effect on lowering levels of concreteness for experimental group supervisors. The lack of change in experimental supervisors' levels of respect and facilitative genuineness may be attributed to (1) the lack of active self-exploration for trust behaviors by experimental group supervisors, (2) possible weaknesses within the study that contributed to the lack of self-exploration for trust behaviors, (3) possible weaknesses within the measurement tools used by experimental group supervisors during the self-exploration activities and used by the researcher for analysis, and (4) the incongruence of the McCrea's Adapted Scales (Anderson, 1988) and the "cognitive coaching" model of supervision (Costa & Garmston, 1989). The low levels of trust behaviors exhibited by experimental and control group supervisors are consistent with the research (McCrea, 1980; Pickering, 1984). Despite the low levels in supervisors' levels of trust for either group, all supervisors reported a good working relationship with their supervisees and all supervisees reported a good working relationship with their supervisors.

Supervisors' Productive Questioning Behaviors

Experimental group supervisors differed significantly from control group supervisors in their percentages of productive questions. Experimental group supervisors used higher percentages of productive questions than control group supervisors. This difference approached significance ($p=.07$) in the second time condition and reached significance ($p=.008$) in the third time condition. Supervisors in the control group tended to maintain their percentages of productive questions across the three time conditions (medians=16.67%, 14.54%, 18.34%) while supervisors in the experimental group increased their levels of productive questions (medians=0.00%, 33.33%, 44.40%). Group differences in the use of question categories were seen (Table 18). Supervisors in the experimental condition used fewer routine ($\bar{X}$=3.1%), fewer cognitive memory ($\bar{X}$=36.9%), fewer convergent ($\bar{X}$=16.9%), more evaluative ($\bar{X}$=10.8%) and more divergent ($\bar{X}$=32.3%) questions than supervisors in the control group ($\bar{X}$=15.9%, 44.4%, 22.2%, 4.8%,

12.7%)(Figure 11). Supervisors in the experimental group tended to increase their percentages of evaluation and divergent questions over time. These results suggested that the experimental condition (ie. self-exploration) may have had an effect on supervisors' productive questioning behaviors.

Two factors may have contributed to the results. First, supervisors in the experimental condition actively engaged in self-exploration activities and attempted to target a change in productive questioning behaviors. The data collected by supervisors during self-exploration activities suggested that productive questioning behaviors were being actively monitored. These data showed that productive questions increased from an average of 17.16 percent (range=0.0-53 percent) in the pre-treatment condition to an average of 61.68 percent (range=42.3-77%) in the final treatment condition. The increased use of productive questions and the self-exploration data for questioning behaviors generated by supervisors in the experimental condition suggested that supervisors were actively targeting and implementing changes in behavior during the supervisory conferences.

A second factor influencing the change in productive questioning is that the tools used for self-exploration of productive questions may have been more sensitive than those used for self-exploration of trust behaviors. During self-exploration activities supervisors recorded two measures of questioning behaviors. They used the Raths et al. (1986) form to determine how much they challenged their supervisees' thinking. Supervisors also used the problem solving formula of the Underwood Category System (Underwood, 1979) to derive a percentage for problem solving interaction. The fact that two self-exploration tools were used and both tools were sensitive to changes in the dependent variable may have influenced the supervisors' active participation in the self-exploration of questioning behaviors.

In summary, the self-exploration condition was evidently effective at creating change in supervisors' productive questioning behaviors. Experimental group supervisors' active and consistent self-exploration of productive questions and the measurement tools

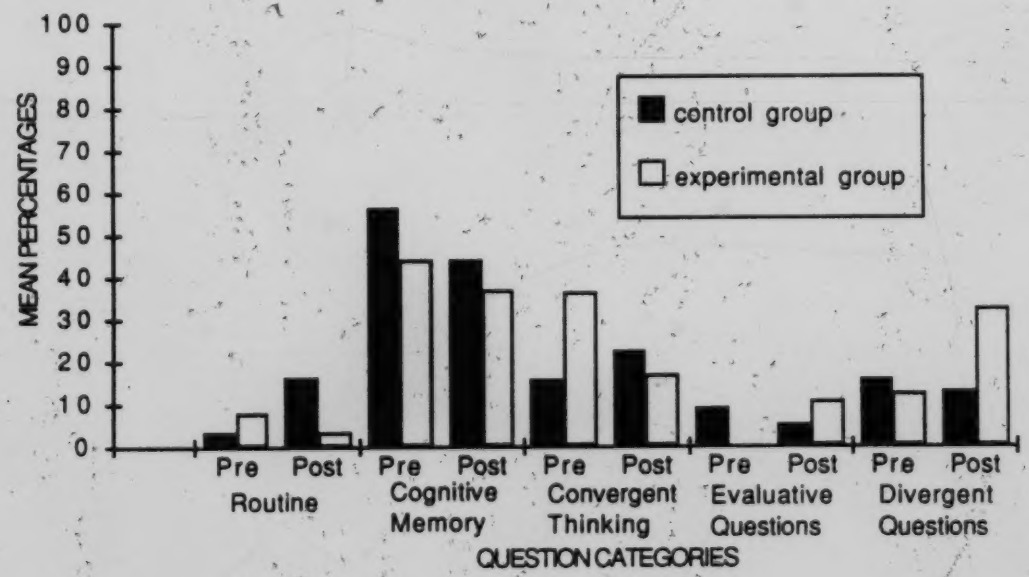
TABLE 18

Mean Percentages for Five Categories of Supervisors' Questions for Two Groups Across Three Levels of Time.

TIME	Pre-Treatment	Post-Treatment		
	1	2	3	Post-Treatment Averages
Levels of Productive Questions Experimental Group Means (Control Group Means)				
Routine Questions	8.0 (3.1)	5.4 (15.2)	0.0 (16.7)	3.1 (15.9)
Cognitive Memory Questions	44.0 (56.3)	35.1 (45.5)	39.3 (43.4)	36.9 (44.4)
Convergent Thinking Questions	36.0 (15.6)	24.3 (21.2)	7.1 (23.3)	16.9 (22.2)
Evaluative Questions	0.0 (9.4)	5.4 (3.0)	17.9 (6.7)	10.8 (4.8)
Divergent Thinking Questions	12.0 (15.6)	29.7 (15.2)	35.7 (10.0)	32.3 (12.7)

FIGURE 11

Mean Percentage for Five Categories of Supervisors' Questions for Two Groups Across Two Time Conditions



used by experimental group supervisors during the self-exploration activities seemed to facilitate the change in productive questioning behaviors. The experimental group supervisors' ability to change their questioning behaviors is consistent with previous research (Strike, 1989) that found supervisors increased their rate of broad questions when they received instruction.

Despite the group differences in mean percentages of productive questions, supervisors in both groups reported that they perceived themselves to have facilitated their supervisees' independence in problem solving.

Supervisees' Conferencing Behaviors

Experimental group supervisees did not differ significantly from control group supervisees in their analytic/evaluative behaviors but differed significantly in their diagnostic/prescriptive and complex/simple behaviors. Supervisees' conferencing behaviors did not differ significantly across the three time conditions.

Analytic/Evaluative Ratio

Experimental group supervisees ($\bar{X}$=0.82) did not differ significantly from control group supervisees ($\bar{X}$=0.88)(Table 6) in their analytic/evaluative conferencing behaviors. Analytic behaviors, statements of facts, explanations, suggestions and explanations of suggestions, were more evident in both groups than evaluative behaviors, statements of evaluations, justifications, opinions and justifications for opinions. Although both groups maintained high analytic/evaluative ratios across the three time conditions and did not differ significantly in these ratios, some group differences were noted (Table 19). In the pre-treatment condition, control group supervisees gave more suggestions ($\bar{X}$=8.3%) than experimental group supervisees ($\bar{X}$=5.0%)(Figure 12). However, control group supervisees explained their suggestions less frequently ($\bar{X}$=2%) than experimental group supervisees ($\bar{X}$=6.7%). During the experimental condition on the average experimental group supervisees used fewer statements of fact ($\bar{X}$=39.1%), more statements of justification ($\bar{X}$=11.3%), more suggestions ($\bar{X}$=11.3%), and more explanations of suggestions ($\bar{X}$=8.7%) than control group supervisees ($\bar{X}$=58.8%, 2%, 5.9% & 0.9%). In the formula used to

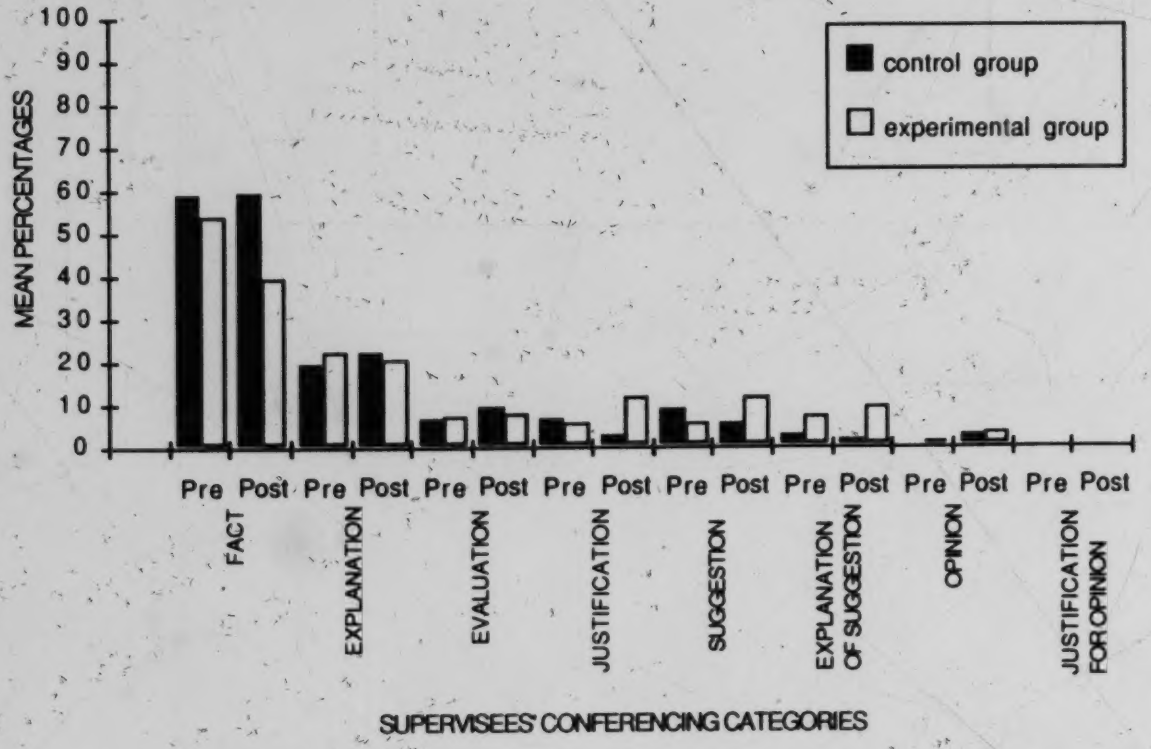
TABLE 19

Mean Percentages for Eight Categories of Supervisees' Conferencing Behaviors for Two Groups Across Three Levels of Time.

TIME	Pre-Treatment	Post-Treatment		
	1	2	3	Post-Treatment Averages
Experimental Group Means (Control Group Means)				
FACT	53.5 (58.3)	37.5 (63.6)	41.2 (53.2)	39.1 (58.8)
EXPLANATION	21.7 (18.8)	26.6 (16.4)	11.8 (27.7)	20.0 (21.6)
EVALUATION	6.7 (6.3)	7.8 (5.5)	5.9 (12.8)	7.0 (8.8)
JUSTIFICATION	5.0 (6.3)	10.9 (1.8)	11.8 (2.0)	11.3 (2.0)
SUGGESTION	5.0 (8.3)	7.8 (7.3)	15.7 (4.3)	11.3 (5.9)
EXPLANATION OF SUGGESTION	6.7 (2.0)	9.4 (1.8)	7.8 (0.0)	8.7 (0.9)
OPINION	1.7 (0.0)	0.0 (3.6)	5.8 (0.0)	2.6 (2.0)
JUSTIFICATION FOR OPINION	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)

FIGURE 12

Mean Percentages Eight Categories of Supervisees' Conferencing Behaviors for Two Groups Across Two Levels of Time



derive the analytic/evaluative ratio, statements of fact, explanation, suggestion and explanation of suggestion are summed to form a total point score for the numerator. Although experimental group supervisees lowered their factual statements, the increase in suggestions and explanation of suggestions maintained the high total point score for the numerator value and thus did not alter the final ratio value significantly.

Diagnostic/Prescriptive Ratio

Experimental group supervisees' differed significantly ($\bar{X}$=.79) from control group supervisees ($\bar{X}$=.92)(Table 8) in their diagnostic/prescriptive behaviors. In the experimental condition, experimental group supervisees used more suggestions ($\bar{X}$=11.3%) and explanations of suggestions ($\bar{X}$=8.7%) than control group supervisees ($\bar{X}$=5.9%, 0.9%)(Table 19). Experimental group supervisees gave few opinions ($\bar{X}$=2.6%) and did not justify their opinions ($\bar{X}$=0.0%). Control group supervisees were similar in that they gave few opinions ($\bar{X}$=2.0%) and did not justify their opinions ($\bar{X}$=0.0%). In the formula used to derive the diagnostic/prescriptive ratio, statements of suggestions, explanations of suggestions, opinions and justifications of opinions are summed to form a total score for the denominator. The higher number of suggestions and explanations of suggestions given by experimental group supervisees contributed to a higher denominator value that then contributed to a lower ratio value. The lower number of factual statements given by experimental group supervisees contributed to a lower numerator value that then contributed to a lower ratio value.

It would appear that experimental group supervisees developed more prescriptive behaviors. The higher number of divergent questions used by experimental group supervisors may have contributed to the increase in supervisees' prescriptive behaviors. Divergent questions encourage elaboration of ideas, formulation of new directions or perspectives, construction of relationships between ideas, exptrapolation beyond the data, and integration of central ideas with new perspectives (Gallagher et al., 1967).

Complex/Simple Ratio

Experimental group supervisees used significantly more complex conferencing behaviors ($\bar{X}$=0.44) than control group supervisees ($\bar{X}$=0.28)(Table 10). In the experimental condition experimental group supervisees used more statements of justification ($\bar{X}$=11.3%) and explanations of suggestions ($\bar{X}$=8.7%) than control group supervisees ($\bar{X}$=2%, 0.9%). In the formula used to derive the complex/simple ratio, statements of justifications and explanations of suggestions are summed with statements of explanations and justifications for opinions to form a numerator value. The increased number of justifications and explanations of suggestions given by experimental group supervisees contributed to a higher numerator value which then contributed to the higher complex/simple ratio value.

In summary, the experimental condition (ie. superivosr self-exploration) did not have a significant secondary effect on supervisees' analytic/evaluative conferencing behaviors but had a significant secondary effect on supervisees' diagnostic/prescriptive and complex/simple conferencing behaviors. Supervisees in both groups were more analytical than evaluative. This finding is consistent with previous findings (Roberts & Smith, 1982). Control group supervisees were more diagnostic than prescriptive and more simple than complex in their conferencing behaviors. These findings are also consistent with previous findings (Roberts & Smith, 1982). Experimental group supervisees were more prescriptive than diagnostic and more complex than simple in their conferencing behaviors. These findings are not consistent with previous research in the speech-language pathology literature (Roberts & Smith, 1982) but are consistent with research in the education literature (Klinzing, H. & Klinzing-Eurich, G., 1988). Klinzing and Klinzing-Eurich (1988) found that when teachers increased their number of divergent questions only slightly, the amount and complexity of student participations increased. Therefore, the experimental condition (ie. supervisor self-exploration) may have had a significant secondary effect, in that it facilitated expansion of the supervisees' repertoire and sophistication of conferencing behaviors.

Despite the differences in conferencing behaviors, supervisees in both groups commented that their supervisors' styles of interaction facilitated independence in problem solving and that they benefitted from these styles of supervision. However, only two of the control group supervisees and all of the experimental group supervisees indicated that they contributed more to the supervisory conference discussions than in past practicums.

Relationship Between Supervisors' Trust Behaviors and Supervisees' Conferencing Behaviors

Overall there were few significant correlations found between supervisors' trust behaviors and supervisees' conferencing behaviors. Two moderate correlations were found between supervisors' levels of facilitative genuineness and concreteness and supervisees' complex/simple conferencing behaviors. However, these correlations were not significant across all time conditions.

No significant correlations were found between supervisors' levels of respect and supervisees' analytic/evaluative, diagnostic/prescriptive, and complex/simple conferencing behaviors.

A significant moderate positive correlation (rho=.69, p=.03) was found between supervisors' levels of facilitative genuineness and supervisees' complex/simple conferencing behaviors. This correlation was found for the third time condition only. Experimental group supervisors exhibited low levels of facilitative genuineness (median=4.20; range=4.00-5.16) and did not differ significantly from the control group supervisors (median=3.51; range=3.00-5.25). However, experimental group supervisees had higher complex/simple conferencing behaviors ($\overline{X}$=.49; range=.25-.88) than control group supervisees ($\overline{X}$= .29; range=.15-.56). It would appear that the correlation can not be attributed to the levels of supervisors' facilitative genuineness because the two groups of supervisors acted similarly in their levels of facilitative genuineness.

A significant moderate negative correlation (rho=-.65, p=.04) was found between supervisors' level of concreteness and supervisees' complex/simple conferencing behaviors. This

correlation was found for the second time condition only. Experimental group supervisors offered significantly lower levels of concreteness (median=4.57; range=4.13-5.10) than control group supervisees (median=5.11; range=4.93-5.43). Experimental group supervisees had significantly higher complex/simple ratios ($\bar{X}$=.49; range=.33-.71) than control group supervisees ($\bar{X}$=.28; range=.10-.57). One might conclude that lower levels of supervisors' concreteness may have facilitated more supervisees' complex conferencing behaviors. When the experimental and control group data were examined independently there was no significant correlation found for the control group (rho=-.11, p=.80) but there was a negative correlation that approached significance (rho=-.92, p=.06) for the experimental group. This provided further evidence that the lower levels of concreteness facilitated higher levels of supervisees' complex conferencing behaviors. The fact that the strength of the correlation improved when the experimental and control group data were collapsed suggested that the inverse relationship between supervisors' levels of concreteness and supervisees' complex/simple conferencing behaviors may have reached a higher level of significance with a larger number of subjects.

In summary, there was no significant correlation between supervisors' levels of respect and supervisees' conferencing behaviors. There was a significant moderate positive correlation between supervisors' levels of facilitative genuineness and supervisees' complex/simple conferencing behaviors. There was also a significant moderate negative correlation between supervisors' levels of concreteness and supervisees' complex/simple conferencing behaviors. The minimal differences between supervisors' levels of trust, the large differences between supervisees' conferencing behaviors, and the inconsistency of the correlations across the three time conditions suggest that factors other than just supervisors' trust behaviors may have influenced the results. Such factors might be supervisees' willingness to take risks, supervisees' levels of confidence, and supervisees' problem solving behaviors.

Relationship Between Supervisors' Productive Questioning Behaviors and Supervisees' Conferencing Behaviors

There were no significant correlations between supervisors' productive questions and supervisees' analytic/evaluative conferencing behaviors. Moderate correlations were found between supervisors' productive questions and supervisees' diagnostic/prescriptive and complex/simple conferencing behaviors for the third and second time conditions respectively.

The moderate negative correlation found between supervisors' percentage of productive questions and supervisees' diagnostic/prescriptive conferencing behaviors was significant for the first (rho=-.66, p=.04) and third (rho=-.66, p=.04) time conditions. A negative correlation would suggest that, as the supervisors' percentages of productive questions increased, the supervisees' diagnostic/prescriptive ratio decreased. Although this was the overall trend for the experimental group supervisors (median= 0.00%, 33.33%, 44.40%) and supervisees ($\bar{X}$=.87, .78, .71), it was not the trend for the control group supervisors and supervisees. Control group supervisors maintained their percentages of productive questions across the three time conditions (median=16.67%, 14.54%, 18.34%) and control group supervisees maintained their complex/simple ratios across the three time conditions ($\bar{X}$=.27, .28, .29). Experimental group supervisees gave more statements of suggestions ($\bar{X}$=11.3%) and explanations of suggestions ($\bar{X}$=8.7%) than control group supervisees (suggestions $\bar{X}$=5.5%, explanations of suggestions $\bar{X}$=1%). This trend suggested that the higher levels of productive questions correlated with higher levels of prescriptive behaviors and lower levels of productive questions correlated with higher levels of diagnostic behaviors.

A moderate positive correlation (rho=.64, p=.04) was found between supervisors' percentage of productive questions and supervisees' complex/simple conferencing behaviors for the first time condition only. A positive correlation would suggest that low percentages of supervisors' productive questions would correspond to low levels of supervisees' complex/simple ratios or that high

levels of supervisors' productive questions would correspond to high levels of supervisees' complex/simple behaviors. The positive correlation noted in the first time condition was consistent between the groups. Both groups of supervisors exhibited low levels of productive questions and both groups of supervisees exhibited low complex/simple ratios. Experimental group supervisors did not differ significantly in their percentages of productive questions (median 0.00%; range=0.00%-33.33%) from control group supervisors (median=16.67%; range 0.00%-50.00%). Experimental group supervisees did not differ significantly ($\overline{X}$=.34; range=.08-.67) from control group supervisees ($\overline{X}$=.27; range=.20-.30) in their complex/simple conferencing behaviors. The fact that the positive correlation between supervisors' percentages of productive questions and supervisees' complex/simple conferencing behaviors was not present in the second and third time conditions may be because trends were lost when the data were collapsed and there was wide variation between individuals in each group. In the second time condition, experimental group supervisors had higher percentages of productive questions (median=33.33%; range=25.00%-44.44%) than control group supervisors (median=14.54%; 0.00%-80.00%). Experimental group supervisees had higher complex/simple ratios ($\overline{X}$=.49; range=.33-.71) than control group supervisees ($\overline{X}$=.28; range=.10-.57). Although the experimental group demonstrated the positive trend towards increased percentages of productive questions and increased complex/simple ratios, the control group did not. Thus the significance of this correlation may have been lost when the data were collapsed. Supervisors nine (control group) and ten (control group) used the same percentage of productive questions (20%) yet supervisee nine had a higher complex/simple ratio (.57) than supervisee ten (.10). Supervisor two (experimental group) used more productive questions (42.86%) than supervisor three (experimental group)(25.00%) but supervisee two had a complex/simple ratio (.45) that was similar to supervisee three (.47). Thus individual variation may have contributed to the lack of a significant correlation between supervisors' percentages of

productive questions and supervisees' complex/simple conferencing behaviors for the second and third time conditions.

In summary, there was no significant correlation between supervisors' percentages of productive questions and supervisees analytic/evaluative conferencing behaviors. There was a significant moderate negative correlation between supervisors' percentages of productive questions and supervisees diagnostic/prescriptive conferencing behaviors in the second and third time conditions. These correlations may be attributable to the increased percentages of productive questions used by experimental group supervisors and the increased number of prescriptive behaviors used by experimental group supervisees. There was a significant positive correlation found between supervisors' percentages of productive questions and supervisees' complex/simple conferencing behaviors in the first time condition. This correlation was attributable to the consistency of the trend in both the experimental and control groups. That is, both groups of supervisors used low levels of productive questions and both groups of supervisees had low complex/simple ratios. The fact that this trend was not maintained in the second and third time conditions was attributable to the possibility that subtle group trends were lost when the data were collapsed and individuals within each group varied widely in their levels of conferencing behaviors.

CHAPTER 6
CONCLUSIONS

The primary purpose of this study was to investigate the effects of guided supervisors' self-exploration on supervisors' and supervisees' conferencing behaviors. The secondary purpose was to investigate the relationship between supervisors' and supervisees' conferencing behaviors.

Effects of Supervisors' Self-Exploration

Three questions were posed about the effects of guided supervisors' self-exploration on supervisors' and supervisees' conferencing behaviors. The first question asked about the effects of supervisor self-exploration on supervisors' levels of trust. It was hypothesized that supervisors' self-exploration would increase supervisors' levels of trust behaviors. The data did not support this hypothesis. The data showed that the experimental condition (ie. self-exploration) did not have an effect on supervisors' levels of respect and facilitative genuineness, but did have an effect on supervisors' levels of concreteness. Although levels of concreteness were significantly different, experimental group supervisors did not increase their levels of concreteness but rather lowered their levels of concreteness. The lack of change in supervisors' levels of respect and facilitative genuineness was attributed to (1) the lack of active self-exploration of support behaviors by all supervisors in the experimental group, (2) weaknesses in the sensitivity of the self-exploration tools used to measure support behaviors, and (3) the incongruence between the "cognitive-coaching" model of supervision (Costa & Garmston, 1988) and the McCrea's Adapted Scales (Anderson, 1988). The "cognitive-coaching" model of supervision (Costa & Garmston, 1988) proposes that praise and evaluation be reduced and learning be facilitated through questions. McCrea's Adapted Scales (Anderson, 1988) rate praise at high levels and questions at neutral levels on the scales or respect and facilitative genuineness. The lowered levels of concreteness exhibited by experimental group supervisors were attributed to supervisors' attempting to adopt a less directive form of interaction.

The second question asked about the effects of supervisors' self-exploration on productive questioning behaviors. It was hypothesized that supervisors would increase their percentages of productive questions. The data supported the hypothesis. Experimental group supervisors increased their percentages of productive questions and continued to increase their percentages of productive questions across time. The increase in productive questions was attributed to (1) the active participation of all experimental group supervisors in the self-exploration of questions and (2) the sensitivity of the tools used for self-exploration activities and data collection.

The third question asked about the effects of supervisors' self-exploration on supervisees' conferencing behaviors. It was hypothesized that supervisees' ratios of analytic/evaluative and diagnostic/prescriptive conferencing behaviors would decrease and supervisees' ratios of complex/simple conferencing behaviors would increase. The hypothesis was partially supported in that supervisees' ratios of diagnostic/prescriptive behaviors decreased and supervisees' ratios of comple/simple behaviors increased. Supervisees' ratios of analytic/evaluative behaviors did not change. The lack of change in supervisees' analytic/evaluative behaviors was attributed to a lack of change in evaluative conferencing behaviors. The decreased ratio of experimental group supervisees' diagnostic/prescriptive behaviors was attributed to an increase of prescriptive (suggestions, explanations of suggestions) conferencing behaviors in the experimental group supervisees. The increased ratio of supervisees' complex/simple conferencing behaviors was attributed to an increase in complex conferencing behaviors (justifications, explanations of suggestions) exhibited by the experimental group supervisees.

In summary, guided supervisors' self-exploration appeared to have an effect on supervisors' productive questions and a secondary effect on supervisees' prescriptive and complex conferencing behaviors. Therefore, self-exploration may have some limited utility as a method for demonstrating accountable supervision.

Supervisors in the experimental condition commented that the self-exploration activities heightened their awareness of their supervisory styles, forced them to take the time to analyze their interactions, and gave them an opportunity to practise new supervisory behaviors. They commented that the time required for self-exploration activities, a perception of stilted or unnatural conferences, and a perceived lack of personal rapport were drawbacks to participation. The stilted or unnatural feel of the conferenences was attributed to the act of audio recording and scheduling of a conference when none was needed. Another interpretation might be that adopting new supervisory behaviors did not feel natural to the supervisors. Only one supervisee in the experimental condition commented on this type of unnaturalness stating that the new supervisory behaviors appeared to inhibit the flow of the conference. Finally, one supervisor and her supervisee both commented on the lack of rapport in the conferences and the supervisee's personal need for more positive support. That particular supervisor commented that, in an attempt to reduce evaluation or praise comments so as to be in keeping with the "cognitive coaching" (Costa & Garmston, 1989) model of supervision, a negative interaction resulted with a supervisee who appeared to need more positive feedback.

Supervisors in the control group commented that participation in the study was beneficial. Two control group supervisors commented that the act of audio recording had ensured that conferences were scheduled on a regular basis and had heighted their awareness of their behaviors. Time constraints, audio recording of interactions and the need to ensure formal conferences were scheduled on a regular basis were also described as drawbacks to the study.

Relationship Between Supervisors' and Supervisees' Conferencing Behaviors

Two questions were posed about the relationship between supervisors' and supervisees' conferencing behaviors. To answer these questions the data from the control and experimental group were collapsed. The first questions asked about the relationship

between supervisors' levels of trust and supervisees' conferencing behaviors. It was hypothesized that there would be a positive relationship between supervisors' levels of trust and supervisees' conferencing behaviors. The hypothesis was not supported, because the correlations were either non significant or not present across all time conditions. There were no significant correlations found between supervisors' levels of respect and supervisees' conferencing behaviors for any of the time conditions. There were no significant correlations between supervisors' levels of facilitative genuineness and concreteness and supervisees' analytic/evaluative and diagnostic/prescriptive conferencing behaviors. Although there were significant moderate correlations between supervisors' levels of facilitative genuineness and supervisees' complex/simple conferencing behaviors and supervisors' levels of concreteness and supervisees' complex/simple conferencing behaviors, the correlations were not in the same direction and were not present across all time conditions. Supervisors' levels of facilitative genuineness were positively correlated to supervisees' complex/simple conferencing behaviors for the third time condition only. Supervisors' levels of concreteness were negatively correlated to supervisees' complex/simple conferencing behaviors for the second time condition only. The lack of consistent and significant correlations suggested that factors other than supervisors' levels of trust may have contributed to the results.

The second question asked about the relationship between supervisors' percentages of productive questions and supervisees' conferencing behaviors. It was hypothesized that there would be a positive relationship between supervisors' percentage of productive questions and supervisees' conferencing behaviors. The hypothesis was only partially supported. There was no correlation between supervisors' percentages of productive questions and supervisees' analytic/evaluative conferencing behaviors. A moderate negative correlation was found between supervisors' percentages of productive questions and supervisees' diagnostic/prescriptive behaviors. That relationship was present in the second and third time conditions. The non significant correlation between

supervisors' productive questions and supervisees' analytic/evaluative conferencing behaviors and the negative correlation found between supervisors' productive questions and supervisees' diagnostic/prescriptive behaviors were attributed to the low incidence of productive questions which encouraged supervisees to evaluate and the high incidence of divergent questions which encouraged supervisees to give suggestions and explain their suggestions. Although a moderate positive correlation was found between supervisors' percentage of productive questions and supervisees' complex/simple conferencing behaviors, the correlation was only significant in the first time condition. The correlation was attributed to the fact that supervisors in both groups used few productive questions and supervisees in both groups exhibited low ratios of complex/simple conferencing behaviors. The fact that the correlation remained non significant across the second and third time conditions despite increases in experimental group supervisors' percentages of productive questions and increases in experimental group supervisees' complex/simple ratios was attributed to the loss of subtle group differences because the data were collapsed and wide variations existed among individuals in both groups.

Limitations of the Study

Internal and external validity are important to experimental research in order to make statements about the results of a study and the degree to which the results can be generalized (Ventry & Schiavetti, 1980). Threats to internal validity not only limit statements about results, but also limit statements about generalization (Ventry & Schiavetti, 1980).

Threats to Internal Validity

Ventry and Schiavetti (1980) described nine factors that threaten internal validity. Important to outcome statements about this study are threats imposed by history, maturation, instrumentation, subject selection and the Hawthorne effect.

The first factor influencing the internal validity of the study is history. History is defined as "events occurring between the first and second (or more) measurements in addition to the experimental

variable" (Ventry & Schiavetti, 1980, p. 68). Three historical factors may have threatened internal validity. First, the intervals between supervisory conferences were not consistent. Although all supervisor-supervisee pairs recorded seven conferences, the intervals between supervisory conferences varied from one week to a maximum of four weeks. Only three of the control group and two of the experimental group supervisor-supervisee pairs recorded the seven conferences at regular weekly intervals. Second, the number of supervisory conferences held each week varied. Although the study stipulated that supervisory conferences be recorded on a weekly basis, no stipulations were made about the number of weekly supervisory conferences. Four of the control group and three of the experimental group supervisor-supervisees pairs held supervisory conferences twice a week. Third, the events preceeding the supervisory conferences varied. Supervisors in both groups did not consistently observe the supervisees' treatment sessions prior to the supervisory conference. Although no data were collected to substantiate this statement, supervisors four and five commented to the researcher that the content of their supervisory sessions varied dependening upon whether they had observed or not observed their supervisees' treatment sessions. These supervisors stated that, when they had observed their supervisees' treatment sessions, there was less discussion about what had happened and more discussion about what could be done to improve or change the therapy session. Thus, the lack of consistency in the time intervals between supervisory conferences, the number of supervisory conferences held weekly, and the events preceeeding supervisory conferences may have created a threat to the internal validity of this study by introducing factors other than the experimental condition which may have contributed to the results.

The second factor that may have threatened the internal validity of the study is maturation. Maturation is defined as "changes in subjects themselves that cannot be controlled by the experimenter" (Ventry & Schiavetti, 1980, p. 69). The length of the study, the extensive amount of time required to engage in self-exploration activities, and the length of each supervisory conference

may have had an influence on the motivation of experimental group supervisors to maintain and improve upon newly learned supervisory behaviors. The study extended across seven weeks and supervisors in the experimental group actively engaged in self-exploration activities for four of the weeks. Self-exploration activities required 60-90 minutes. The duration of supervisory conferences ranged from 12-30 minutes. Although no data were collected to substantiate the possibility that the length of time led to lost motivation, comments were made by experimental group supervisors that the self-exploration activities were time consuming. Supervisor four also claimed that the implementation of new behaviors was only monitored closely for short segments of the supervisory conference.

The third factor that may have threatened the internal validity of the study was intrumentation. Instrumentation factors refer to the calibration of measuring instruments or the adequacy of rating scales and tests (Ventry & Schiavetti, 1980). During self-exploration activities experimental group supervisors used the Underwood Category System (Underwood, 1979) to categorize supportive and problem solving behaviors. The Underwood Category System (Underwood, 1979) may not be adequately sensitive to supervisory behaviors that demonstrate support. Although supervisors may be able to record supportive behaviors such as paraphrasing and praise, they are not able to record supportive behaviors that are non verbal. Although behaviors such as verbal "mms" and silence can be recorded and are supportive in that they encourage the supervisee to continue or begin speaking, these behaviors are excluded from the formulas that describe the patterns of interaction. The McCrea's Adapted Scales (Anderson, 1988) provides a more sensitive measure of supportive behaviors. However, the scales and rating levels are loose in their definitions. Inter-judge point-to-point reliability was only moderately high (76.2%) and this level of reliability was only achieved after careful redefining of the rating scales to include more explicit statements about behaviors and examples of behaviors. The Gallagher et al. (1967) question classification system as a measurement tool also

required redefining to include more explicit statements about behaviors and examples of behaviors in order to achieve what might be considered at best only a moderate level of inter-judge point-to-point reliability (78.6%). Finally, data were collected from five minute segments of supervisory conferences. Although the McCrea's Adapted Scales (Anderson, 1988) and the Smith's MOSAICS (Anderson, 1988) have been validated for use with short segments of supervisory conferences (Casey, 1980; Hagler & Fahey, 1987), the Gallagher et al. (1967) question classification system has not. Therefore, it may be that a different pattern of questioning behavior would have emerged if the data had been collected from a longer time segment.

The fourth factor that may have threatened the internal validity of the study is subject selection. Subject selection may have been a threat to internal validity because "differences between subjects in the experimental and control groups may account for the treatment effects rather than the treatment itself" (Ventry & Schiavetti, 1980, p. 77). Attempts were made to reduce the threat of subject selection by balancing the experimental and control groups based on supervisors' knowledge of the supervisory process and supervisory experience and supervisees' clinical experience. However, this was not accomplished, because supervisors in the control group tended to have a wider range of supervisory experience (no experience-supervised more than 15 students) than supervisors in the experimental group (supervised 2-4 students). Supervisees in the control group and experimental group were equally experienced but no data were collected on the supervisees' age or maturity. This factor may have had an effect on supervisees' willingness to risk and self-explore during supervisory conferences. Attempts were made to reduce the threat of subject selection by randomly placing subjects in the control or the experimental groups. However, this was not successfully accomplished, because there were very few supervisors and two subjects indicated that they would only be willing to participate if they could act as control subjects. Therefore, the experimental group may have been made up of special

people, more willing than the average to work on their supervisory skills.

The fifth factor that may have threatened the internal validity of the study was the Hawthorne effect. The Hawthorne effect is defined as "changes in a subject's behavior that occur simply because the subject knows he or she is participating in an experiment" (Ventry & Schiavetti, 1980, p. 80). All of the control group supervisors indicated that participation in the study and the act of audio recording their supervisory conferences had heightened their awareneness of their supervisory behaviors. One of the control group supervisors reported that participation in the study had changed the supervisory style.

Threats to External Validity.

Subject selection and dependent variable factors may have been threats to external validity. First, statements about generalization must be stated cautiously because the number of participants was small. Second, four supervisor dependent variables and three supervisee dependent variables were identified. Kirk (1968) discussed the need to be more stringent about experiment wise error when a large number of comparisons are made on a limited data source. When the formula for error rate per comparison (Kirk, 1968, p. 82) is applied to supervisor and supervisee dependent variables the probability values become more stringent (supervisor $p = .01$; supervisee $p = .02$). When these values are applied to the data, the effect of self-exploration on supervisors' levels of concreteness ($p = .01$) and questioning behaviors ($p = .008$) and supervisees' diagnostic/prescriptive ($p = .009$) and complex/simple ($p = .02$) conferencing behaviors remain significant. However, when the more stringent probability values are applied to the data on relationships the relationships between supervisors' levels of facilitativeness and supervisees' complex/simple conferencing behaviors ($p = .03$), supervisors' levels of concreteness and supervisees' complex/simple conferencing behaviors ($p = .04$), and supervisors' productive questions and supervisees' diagnostic/prescriptive ($p = .04$) and complex/simple ($p = .04$) conferencing behaviors are no longer significant.

In summary, it would appear that there were internal and external validity threats that limit statements about results and generalization of results. This study could be improved upon by increasing the number of subjects, reducing the number of dependent variables, ensuring that subjects are randomly assigned to groups, and ensuring that conferences are systematically scheduled at regular intervals and follow direct observation of a supervisee's treatment session. Self-exploration and change in behaviors requires movtivation and time. These factors might be better controlled by using a single-subject design replicated with four or more subjects. In this way, the stability of pre-treatment behaviors could be ensured and the effects of self-exploration on support behaviors could be studied independent of the effects of self-exploration on productive questions. A single-subject design also might facilitate conclusions on the long-term effects of self-exploration.

Implications for Future Research

The significant findings on the effects of guided supervisors' self-exploration on supervisors' productive questioning behaviors and supervisees' diagnostic/prescriptive and complex/simple conferencing behaviors and the experimental group supervisors' comments on the positive aspects of self-exploration would support the notion that self-exploration may be not only a valuable supervisory activity for personal and professional growth but also may be a method for the measurement of supervisor accountablility. However, further research is needed to provide additional support for self-exploration as a valuable and accountable supervisory activity.

Further research in the area of self-exploration would be enhanced if the following factors were considered in the research design. First, a single-subject design might be preferrable to the experimental group design used for this study. A single-subject design would reduce validity threats created by subject selection and maturation factors by minimizing the possible influence of subject motivation and subject background variables. A replicated single-subject design would provide support for statements about

generalization. This researcher found that the intensive and long-term time commitments of the study limited the number of subjects willing to participate. Second, limiting the focus for self-exploration and the number of dependent variables would facilitate generalization statements about the effects of self-exploration. The more specific the goal for self-exploration the more that can be said about the behavior under investigation and its effect on other supervisor and supervisee behaviors. If more than one behavior were under investigation a multiple baseline single-subject design would enhance statements about the effect of self-exploration on a specific supervisory behavior without the influence of factors related to a second supervisory behavior. Third, the use of more sensitive measurement scales may have an impact on the outcome of self-exploration studies. If supervisors use tools that are highly sensitive to the behaviors under investigation, the feedback obtained from these tools might make it easier to self-explore and change target behaviors. Fourth, the long term effects of self-exploration have not been investigated by this study. The long term effects of self-exploration might be investigated by follow-up measures of supervisors' behaviors in supervisory conferences with different supervisees. Fifth, the long term effects of supervisory behaviors of support and productive questions on supervisees' conferencing behaviors have not been investigated by this study. The analyses used for this study assumed that change in supervisors' conferencing behaviors would have an immediate impact on supervisees' conferencing behaviors. This assumption may not be valid. Further research might investigate the long-term effects of supervisory behaviors on supervisees over the duration of a practicum and in future practicum placements. Finally, the relationship between change in supervisors' behaviors and supervisees' perceptions of satisfaction have not been investigated in this study. Although supervisory behaviors such as productive questions might enhance supervisees' conferencing behaviors, if supervisees' do not perceive questions as facilitative to the learning process, then supervisees may not benefit from the supervisory interaction.

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APPENDIX A
Letter to the Supervisor

Dear (Supervisor's first name),

It is my understanding that you currently have a speech pathology student under your supervision for the semester. I am presently engaged in a research project about the supervisory process and require participants for my study.

The purpose is to investigate supervisory interactional patterns which appear to promote growth in student clinicians. Participants must agree to provide a minimum of 40% supervision for their students. Participants will be systematically assigned to either a control group or an experimental group to balance the groups. Participants will be assigned to either group on the basis of clinical supervisory experience and knowledge of the supervisory process. Participants in the control group will be required to provide 7 audio recorded 30 minute (maximum) samples of supervisory conferences held once per week for 7 consecutive weeks. Participants in the experimental group will be required to provide 7 audio recorded 30 minute (maximum) samples of supervisory conferences held once per week for 7 consecutive weeks, attend an inservice during the third week of the study, and engage in weekly supervisory activities. The inservice will be approximately 2 hours and additional activities will require 1-2 hours per week of your time for a four week period. Control group participants may attend the inservice after completion of the study.

I recognize that those of you in the experimental group are being asked to spend time in addition to your regular job and supervisory commitments. However, I believe that you will find your participation in this project interesting and worthwhile for your own professional growth. If you would be interested in participating please complete the enclosed information sheet along with the signed consent form. If you agree to participate I will contact you by phone to provide additional information. If you do not wish to participate, please print your name and circle the appropriate response on the information sheet. If you are unable to

participate this term, but would be interested in participating another term, please print your name and circle the appropriate response on the information sheet

Thank you for considering this request. I look forward to receiving your response by (Date) 1990.

Sincerely

Leslie Wellman

APPENDIX B

Supervisor Letter of Agreement to Participate in Study

INTERACTIONAL PATTERNS DURING SUPERVISORY CONFERENCES

I, _____,(PRINT NAME) agree to participate in a study which is investigating interactional patterns between supervisors and supervisees during the supervisory conference. I agree to provide my supervisee with a minimum of 40% supervision. I understand that I will be assigned to either a control group or an experimental group. If assigned to the control group I understand that I will be required to provide 7 audio recorded 30 minute (maximum) samples of supervisory conferences held with my supervisee. Audio recordings will be made once per week for seven consecutive weeks. Audio recordings will be returned to the researcher at specified intervals. If assigned to the experimental group I understand that I will be required to provide 7 audio recorded 30 minute (maximum) samples of supervisory conferences held with my supervisee. Audio recordings will be made once per week for seven consecutive weeks. If assigned to the experimental group I also understand that I will be required to engage in additional supervisory activities that will require approximately 1-2 hours per week of my time for five consecutive weeks, attend a 90 minute inservice during the third week of the study, and return the audio recordings to the researcher at specified intervals. I agree not to discuss this project with any of my colleagues. I understand that there are no risks to me, that I will remain anonymous to anyone not directly involved in the project, and that individual subject data will be kept confidential through the use of codes on all audio recordings and data sheets. I also understand that audio recordings will be destroyed following completion of this study. I am free to choose to participate or not participate in the study. I may terminate my participation in the study at any time without jepordy or consequence. Should I have any questions or wish to know the

general outcome of this study, that information will become available to me upon my request.

I understand that my signature means that I have read this form, I understand my involvement in the study, and I voluntarily agree to participate. I have made copies of this agreement and any attachments which I wish to keep for my own records.

_____ _____

Signature of Consenting Supervisor Date

_____

Signature of Witness

APPENDIX C

Supervisor Information Form

Name:_____

a. I am interested in participating in the project.
b. I am not interested in participating in the project.
c. I am unable to participate at this time but would be interested next semester or during the spring internship practicum.

If you are interested in participating at this time please complete the following:

Degrees:_____
Place of
Employment:_____
Professional
Affiliations:_____
Number of years experience as a practising speech-language pathologist_____

Please Circle the response that best fits:

1. Prior to my current student I had supervised a total of:
   1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 more than 15 students
2. I am currently supervising _____(number of) speech-pathology students.
3. I have (please circle as many as apply):
   a. learned about the supervisory process through a university accredited course
   b. learned about the supervisory process through workshops
   c learned about the supervisory process through self-directed readings
   d. learned about the supervisory process through experience
   e. no knowledge of the supervisory process

APPENDIX D

Supervisee Letter of Agreement to Participate in Study

INTERACTIONAL PATTERNS DURING SUPERVISORY CONFERENCES

I, _____,(PRINT NAME) agree to participate in a study which is investigating supervisory interactional patterns which appear to promote growth in student clinicians. I understand that as the supervisee I will be required to participate with my supervisor in audio recording one supervisory conference (maximum 30 minutes) per week for 7 consecutive weeks. I further understand that there will be no risk to me or my practicum grades as a result of my participation in this study. I understand that I will remain anonymous to any person but the researcher and my supervisor. This will be accomplished through the use of identification codes. I also understand that audio recordings will be destroyed upon completion of this study. I understand that I may withdraw from the study at any time without jepordy or consequence. Should I have any questions or wish to know the general results of the study I understand that I am free to contact the researcher for that information.

I understand that my signature means that I have read this form, I understand my involvement in the study, I voluntarily agree to participate and I am free to keep a copy this consent form.

Total Number of Practicum Hours prior to the current placement:_____.

W-PAC Level for current placement: 1 2 3 4 (Please circle).

Name of Supervisor:_____(Please print)

_____ _____

Signature of Supervisee Date

_____

Signature of Witness

APPENDIX E
Supervisor Questionaire

Name:_____

Date:_____

Please circle your response:

As a result of participation in this study:

a. I became more aware of my supervisory style.
strongly agree agree disagree strongly disagree

b. I changed my supervisory style.
strongly agree agree disagree strongly disagree

c. I facilitated student independence in problem solving.
strongly agree agree disagree strongly disagree

d. I developed a good working relationship with my student.
strongly agree agree disagree strongly disagree

e. my student benefitted from my supervisory style.
strongly agree agree disagree strongly disagree

f. my student contributed more to our discussions.
strongly agree agree disagree strongly disagree

g. I was successful at changing my supervisory style to meet the needs of my student.
strongly agree agree disagree strongly disagree

h. I will attempt to maintain my supervisory style.
strongly agree agree disagree strongly disagree

i. I benefitted from participation in this study.
strongly agree agree disagree strongly disagree

Please complete in short answer form.

a. List 2 benefits for you as a result of your participation:

_____

_____

b. List 2 benefits for your student as a result of your participation:

_____

_____

c. List 2 (or more) drawbacks for you as a result of your participation:

_____

_____

d. List 2 (or more) drawbacks for your student as a result of your participation:

_____

_____

I spent approximately_____hours per week on the self-exploration activities.

My student and I held supervisory conferences approximately _____times per week.

I monitored (directly or on tape) my student's therapy sessions ____% of the time.

APPENDIX F
Supervisee Questionaire

Name:_____

Date:_____

Please circle your response.

During this practicuum:

a. I developed independence in problem solving.
   strongly agree agree disagree strongly disagree

b. I developed a good working relationship with my supervisor.
   strongly agree agree disagree strongly disagree

c. I benefitted from my supervisor's style of supervision.
   strongly agree agree disagree strongly disagree

d. I contributed more to our discussions.
   strongly agree agree disagree strongly disagree

e. My supervisor was successful at adapting to my changing needs over the practicuum.
   strongly agree agree disagree strongly disagree

f. I benefitted from participation in this study.
   strongly agree agree disagree strongly disagree

Please complete in short answer form:

a. List 2 benefits for you as a result of your supervisor's style of supervision:

_____

_____

b. List 2 (or more) drawbacks for you as a result of your supervisor's style of supervision:

_____

_____

I held supervisory conferences with my supervisor approximately _____times per week.

My therapy session were, directly or by tape, monitored ____% of the time.